

PART I - SECTION 1 - STANDARD DESIGN AND PLAN PRODUCTION CRITERIA

A. Survey & Mapping Standards and Submittal Requirements

All Surveys shall be performed by a Professional Surveyor and Mapper licensed in the State of Florida pursuant to Chapter 5J-17 and shall meet the Standards of Practice for Professional Surveying and Mapping as identified in Rule 5J-17.050 through 5J-17.052 of the Florida Administrative Code and the additional requirements as follows.

A.1 General Requirements: As a minimum for Topographic, Construction Layout Surveys will address the following:

- 1) Calculate a centerline Baseline with 100-foot stations along the baseline with horizontal control monumentation as required by the Rule 5J-17.052(3). The baseline of the survey shall be tied to right-of-way and monuments. Each surveyor will be responsible for obtaining right-of-way information from the most recent records.
- 2) The Surveyor will set Benchmarks at convenient locations along the corridor to be used during the design, construction and completion of the project. Permanent Benchmarks shall have a maximum of 1,100 feet between existent or established Benchmarks along the alignment. The Surveyor shall tie-in at least two existing Government published Benchmarks to the vertical circuit and take cross sections at 50 foot intervals along the entire project corridor. Site benchmarks and elevations shall be derived from existing government Benchmarks and carried into the proposed site using Second Order, Class II procedures. A full listing of Benchmark locations shall accompany the survey data.
- 3) Cross section elevations shall define all grade breaks such as intersections, swale, edge of pavement, pavement centerline, curb and gutter, edges of sidewalk, driveway connections, right-of-way line, edge of the 25-foot right-of-way offset, Encroachments (both natural and built-in), etc.
- 4) The Surveyor shall obtain elevations of the lowest finished floor of all buildings adjacent to project corridor.
- 5) The Surveyor shall locate and identify all visible surface improvements and Topographic features that exist along the width of the corridor, such as the following:
 - a. Existing valve boxes, water / electrical meter boxes, electrical pull boxes, telephone / cable risers, fences, hydrants, etc.
 - b. Above ground and underground utilities, invert elevations of accessible underground utilities, wood / concrete utility poles, culverts, guardrails, pavement limits, headwalls, end-walls, manholes, vaults, mailboxes, driveways, side streets, trees, landscaping, traffic signage and any other noted improvements. Note that Survey will identify fence material / height, landscaping plant material limits and driveway construction materials; as well as private property Encroachments (i.e. landscaping, overhangs, improvements, etc.)
- 6) The surveyor shall coordinate with each utility agency and/or by other means to identify the location of all existing underground utilities and the interconnectivity of the underground utilities.
- 7) Survey limits shall include the entire right-of-way and an additional 25-feet on either side of the right-of-way.

- 8) Survey data will indicate geometry of perimeter private property plats (inclusive of fences, landscaping and driveways).
- 9) All Horizontal control and locations shall be tied to the Florida State Plane Coordinate System, East Zone (NAD 83/90).
- 10) All Vertical control and elevations shall be referenced to North American Vertical Datum of 1988 (NAVD1988).
- 11) The Surveyor shall be responsible for the location of existing and/or establishing Vertical and Horizontal Survey Control Points.
- 12) Digital submittal of Surveys shall be prepared in compliance with the City of Miami Beach, Public Works Manual **SECTION F. Electronic Media Standards and Requirements** relative to previous described Horizontal and Vertical Datum.
- 13) Hard Copy (paper) submittal of (2) 22"x34" and (2) 11"x17" Hard Copy (paper) with original Signature and Seal, and PDF copy of signed originals.

A.1(a) As-Built/Record Survey Requirements: As-Built/Record Survey will be required upon completion of all construction projects that lay within City-owned properties. Including, but not limited to, City Right of Ways, Easements, Parcels, and Submerged Lands, etc. All improvements including, but not limited to, landscaping will be required. For convenience purposes the following is a copy of the State of Florida requirements for As-Built/Record Surveys. The consultant is responsible to assure the latest revision is used. At a minimum the additional requirements shall address the following.

5J-17 Florida Standards of Practice for Professional Surveying and Mapping

- 1) 5J-17.052 (1) As-Built/Record Survey:
 - (a) When performing as-built or record surveys, the surveyor and mapper shall obtain field measurements of vertical or horizontal dimensions of constructed improvements so that the constructed facility can be delineated in such a way that the location of the construction may be compared with the construction plans.
 - (b) When the surveyor and mapper prepare as-built maps they will clearly show by symbols, notations, or delineations, those constructed improvements located by the survey.
 - (c) All maps prepared shall meet applicable minimum technical standards.
 - (d) The vertical and horizontal accuracy of the measurements made shall be such that it may be determined whether the improvements were constructed consistent with planned locations.

In addition to the Florida Standards of Practice, the following additional requirements for As-Built/Record Surveys shall also be met.

- 2) The Surveyor shall be responsible for the location, establishing or replacement of Vertical and Horizontal Survey Control Points.
- 3) Hard Copy (paper) submittal (2) 22"x34" and (2) 11"x17" submittal with original Signature and Seal, PDF copy of signed originals relative to the North American Vertical Datum of 1988 (NAVD 1988) and referenced to Florida State Plane Coordinates, Florida East Zone, (NAD 83/90).
- 4) Digital submittal of As-Built/Record Surveys shall be prepared in compliance with the City of Miami Beach, Public Works Manual **SECTION F. Electronic Media Standards and Requirements** relative to previously described Horizontal and Vertical Datum.

A.2 General Requirements: At a minimum, Surveys and Plans made for the improvement of seawalls, docks and/or other water-related structures shall include the following:

- 1) Boundary Survey prepared for the current upland owner dated within one year of the Permit application.
- 2) The location, size, and dimensions of proposed and existing improvements within the project area and adjacent to abutting City Owned Submerged Lands or State Owned Submerged Lands and dimensionally tied to the water ward and the side property lines of the upland owner.
- 3) Elevations of proposed and existing improvements must be referenced to the North American Vertical Datum of 1988 (NAVD 1988).
- 4) Existing and Proposed Elevations of the top of the seawall.
- 5) The minimum height requirement when replacing/repairing a seawall is 3.20 feet (NAVD 1988).
- 6) Survey must be tied to at least two points referenced to State Plane Coordinates, Florida East Zone, North American Datum of 83/90. The method used to determine the Coordinates must be noted on the drawing.
- 7) Submittal of (2) Hard Copies (paper) of the Survey with original Signature and Seal of the Surveyor.
- 8) Upon completion of the construction project, an As-Built/Record Survey will be required as previously stated in **SECTION A.1(a) 1) 2) 3)**. If the project area is small, the Hard Copy (paper) submittal may be provided only on 11"x17" sheets at a scale of 1"=20'.

B. Geotechnical Considerations

Geotechnical

1. The Contractor shall be responsible for having determined to his satisfaction, prior to the submission of his bid, the nature and location of the work, the conformation of the ground, the character and quality of the substrata, the types and quantity of materials to be encountered, the nature of the ground water conditions, the character of equipment and facilities needed preliminary to and during the execution of the work, the general and local conditions and all other matters which can in any way affect the work under this contract. The prices established for the work to be done will reflect all costs pertaining to the work. Any claims for extras based on substrata or ground water table conditions will not be allowed.
2. Information on subsoil conditions consisting of soil borings and environmental issues shall be included in the construction document. The Contractor shall perform any additional soil investigations he deems necessary at his own expense.
3. This material is made available as information only and solely for the convenience of bidders. The Owner and/or the Consultant do not warrant or guarantee the accuracy of correctness of this material with respect to actual subsurface conditions. The Contractor agrees that he will make no claims against the Owner and/or the Consultant if, in carrying out the work, he finds that actual conditions encountered do not conform to those indicated.

4. Geotechnical, Soil Testing and/or Lab Testing Services are required steps in the proper pre-planning of construction projects for the City. Many of the City's CIP and Public Works projects will require a Geotechnical, Soils or Lab Testing Report to validate either the City's Engineer's or any Architect's or Engineer of Records recommendations as to any site, building or any other project's unknown characteristics.

The City will be able to adequately plan and incorporate Geotechnical and Soil Testing Services as part of the pre-construction preparatory work, which is a phase that is part of every City construction project.

SECTION II – SCOPE OF SERVICES

Geotechnical Services

- A. The Consultant shall provide all labor, materials, equipment, transportation, and other appurtenant work for performing subsurface explorations, obtaining representative samples, and performing all other geotechnical services.
- B. The Consultant shall comply with all federal, state, and local rules and regulations with regard to permits, bonds, drilling, plugging, and all other applicable aspects of drilling.
- C. The Consultant shall research and review all pertinent existing geologic and geotechnical data and information available from USGS, area development, and the company's own files.
- D. The Consultant shall review the proposed project information and requested scope of work indicated as a minimum level of services desired relative to the anticipated subsurface conditions present. If localized subsurface conditions are expected to vary significantly, Consultant shall advise Owner of additional recommended services prior to commencing work.
- E. The Consultant shall be responsible for contacting the appropriate agencies (state/city utility check) for determining locations of utilities in the vicinity of the actual boring locations.
- F. Borings shall be backfilled to the original ground surface in accordance with all applicable local, state, and federal guidelines.
- G. Consultant shall perform the standard penetration test (SPT) in accordance with ASTM Designation D 1956.
- H. In soil that is predominantly cohesive (silty clays, sandy clays, and material with adhesive binder), Consultant shall use the thin-walled tube method for sampling in accordance with ASTM Designation D 1587.
- I. Rock coring shall be performed in accordance with ASTM Designation D 2113.
- J. Double-ring infiltration test shall be conducted in accordance with ASTM Designation D 5093.
- K. Laboratory tests shall be assigned and performed by the Consultant to classify soils and obtain geotechnical physical characteristics such as strength, compressibility,

swell potential, compaction characteristics, and chemical characteristics such as corrosiveness. Perform laboratory testing consistent in quantity and quality with local geotechnical engineering practice to provide the required design parameters and recommendations. The quantity of tests to be performed will be dependent upon the type of soil and/or rock encountered during drilling and sampling with additional consideration of the foundation types that may be required to support the proposed structures.

- L. The Consultant shall prepare a geotechnical engineering report containing a discussion of the proposed construction, final boring logs, boring location plan, a description of the drilling and sampling program, a description of the geology and subsurface conditions encountered, groundwater conditions, laboratory test results, and foundation and earthwork recommendations and design parameters.

The following is a list of major items that shall appear in the geotechnical engineering report:

- Previous Construction Activity and Existing Fill (if present): A discussion of previous construction activity shall address any existing fills or subsurface openings, if encountered. Outline the engineering properties of any existing fills with regard to foundation design.
- Subsurface Conditions: Subsurface conditions encountered at the site shall be discussed, based upon stratigraphic sequence observed and local geology. Figures shall be provided displaying soil borings and generalized cross sections. A general description of the engineering properties or parameters determined from the investigation and applied to design recommendations shall be provided. Prevailing groundwater elevations observed and those recommended for design shall be noted.
- Site Preparation Recommendations: Provide grading and site preparation recommendations taking into consideration the conceptual grading plan for the site.
- Compaction Requirements: The report shall contain detailed and specific criteria for acceptable embankment, fill, or backfill materials and address whether the available borrow material on site is suitable for general or structural fill. The report shall contain recommendations for material usage at the site with regard to placement and compaction requirements as well as any recommended treatment. Compaction criteria, including acceptable gradations, moisture control, compactive effort, and need for proofrolling shall be discussed, including criteria for both granular and cohesive fill, if applicable. Preparation of subgrades for fill and backfill placement shall be discussed.
- Foundation Design: The geotechnical engineering report prepared by the Consultant will be used to size and structurally design stable foundations for the structures. To accomplish this task, the report shall contain recommendations in regard to the recommended foundation type for each structure, as loading and site conditions may require.

The report shall provide net allowable bearing pressures for shallow spread footings and mats, at recommended bearing depths, considering the types of materials supporting the mats, and note whether any overstressing is allowed under short-term loading such as dynamic, wind, or seismic loading conditions. If over-excavation of unsuitable materials and backfill with structural backfill are required to improve the foundation soils to allow the use of shallow foundations, provide estimated vertical and horizontal extent of the over-excavation and structural backfill. Provide estimated total and differential settlement for foundations using the recommended bearing pressures. Provide an estimate of the time of settlement. Note factors of safety included or recommended. Provide recommendations for resistance to lateral loads, such as passive earth

pressures and sliding friction for the base of foundations. Provide recommended groundwater level for determination of buoyancy and means to resist buoyant forces, if needed.

Recommendations for deep foundations shall include diameter, depth, and any recommended installation requirements. Provide allowable design loading capacities for vertical downward loading, vertical upward loading, and horizontal loading, as appropriate to the site conditions.

Provide design parameters for analysis of laterally loaded drilled piers and required input into lateral pile capacity software. All factors of safety utilized in developing the allowable load capacities shall be outlined in detail.

- Slope Stability and Excavations: The report shall address the recommended inclination of both temporary excavation and permanent slopes.
- Excavation Requirements: If necessary, a section of the report shall address the excavability of the soils and rock which may be exposed during foundation excavation and site grading. The effort and type of equipment utilized to perform excavations is dependent upon the size and depth of the excavation. Thus, the discussion shall be in regard to area-type excavations and confined excavations, such as utility trenches.
- Dewatering: Conditions present at the site requiring groundwater control, dewatering, or surface drainage during excavation for mats, footings, and other construction shall be discussed. Anticipated types of dewatering shall be described. Special consideration to exposed sub-soils within the bottom of excavations during construction shall be addressed.
- Corrosion Potential and Chemical Attack to Concrete: An evaluation of representative subsurface materials shall be performed to provide laboratory test results for chemical constituents, specifically pH, chloride ion, soluble sulfates, and sulfides as well as electrical resistivity. These parameters are required to evaluate the potential for corrosion to underground piping and grounding, and selection of cement type to resist potential sulfate attack.
- Pavement and Roadway: Provide typical pavement thickness suggestions in accordance with CMB standard details Roadway specifications.

Any other items of consideration as deemed necessary by the geotechnical company.

The geotechnical engineering report shall be prepared by or under the direction of a Registered Professional Engineer registered under the regulatory laws of the State of Florida.

Roadway Reports

Roadway reports shall include, but not be limited to:

- Copies of SCS and USGS maps with project limits.
- A report of tests sheet that summarizes the laboratory test results, the soil stratification (i.e., soils grouped into layers of similar material) and construction recommendations relative to the current Standard indices.
- Estimated seasonal high and/or low groundwater levels, and review with respect to proposed pavement grades.
- Recommend type of geosynthetic for various applications.
- The Design LBR results from 90% and mean methods.
- Permeability/infiltration parameters for water retention areas/exfiltration trenches/swales.
- A description of the site and subsoil conditions, design recommendations and a discussion of any special considerations (i.e., removal of unsuitable material,

- recompression of weak soils, estimated settlement time/amount, groundwater control etc.)
- An appendix which contains stratified soil boring profiles, laboratory test data sheets, Design LBR calculations/graphs, and any other pertinent information.

In addition to the roadway report, the Consultant will also provide stratified boring profiles to the Designer and review the entire set of plans for completeness before each submittal as requested by the Department. The Consultant shall assist the Designer with detailing limits on the cross-sections of subsoil excavation. Up to four draft roadway reports shall be submitted to the District Geotechnical Engineer for each review prior to incorporation of the Consultant's recommendations in the project design.

Permits

The consultant is responsible for obtaining all required City of Miami Beach and any Miami Dade County Public Works permits, including but not limited to, MOT, excavations, dewatering, etc. Additionally, if required, the consultant shall be responsible for all special events permits from the City of Miami Beach Public Works Department and Miami Dade County Police Department.

C. Storm Water Design Criteria

1. Design Tailwater elevation shall be 2.70 feet NAVD.
2. Minimum inlet grate elevation shall be 2.70 feet NAVD for gravity systems. If existing conditions contain grates lower than 2.70 feet NAVD, then the area must be designed as a pumped basin.
3. New gravity drainage systems must be water tight in accordance with the Public Works Standard Specifications. In areas where ground elevations are below 1.60 feet NAVD, all existing manholes and pipes that are to remain shall be sealed and lined respectively as needed to ensure infiltration does not exceed the maximum allowance as per the Public Works Standard Specifications.
4. All new drainage systems must be designed to meet a minimum 5 years 24 hours storm level of service as per South Florida Water Management District (SFWMD). Maximum stage elevation within a drainage basin shall be up to the lowest crown of the road, or to within 15 feet of a dwelling or occupied building, whichever is lower.
5. Rainfall amount for design purposes shall be 7.5-inches (SFWMD 5-yr/24-hr 6-inch rainfall event with 1.25 safety factor).
6. For modeling purposes, consultant shall use the SCS Type III rainfall distribution.
7. Minimum allowed storm water pipe size for right-of-way projects is 18-inches. Existing pipes within a right-of-way project shall be upsized as needed to meet the minimum size requirement.
8. Drainage basin boundaries for landlocked lots shall be up to the back property lines, and half the lots for waterfront properties. When project is adjacent to residential or commercial developments with an independent and self contained storm water system, a 25-foot offset from the right-of-way line is an acceptable boundary. The City Engineer must approve any deviation from these requirements.
9. When existing seawalls are disturbed as part of a right-of-way project they must be raised to a minimum elevation of 5.70 feet NAVD.

10. These minimum design criteria may be waived at the discretion of the Public Works Department.

D. Traffic Engineering

1. Traffic General

A traffic study will be required for proposed projects consisting of new developments. The study shall include the following topics:

- I. Introduction of the Project/Development
- II. Data Collection
- III. Prevailing Road and Traffic conditions
- IV. Existing Traffic Conditions
- V. Committed Development Traffic
- VI. Project Traffic
- VII. Future Traffic Conditions
- VIII. General Site Operations and Impacts
- IX. Findings and Conclusions

1. Traffic safety and traffic control devices shall be employed on all private and public construction work within the public right of way. Such measures shall be established and provided in conformance with following regulations and in conformance with Miami-Dade County Public works Manual.
2. For construction within the City public right of way, the contractor shall submit two sets of construction plans for review to the City of Miami Beach Public Works Department, and Miami-Dade County Public Works Department, Traffic Division.
3. All traffic control and warning devices so specified, shall, unless otherwise specified by the City of Miami Beach and Miami-Dade County be furnished, installed according to the Dade County Public Works Manual, Part I, Standard Details traffic control and safety by a Uniformed Police Officer, when specified, shall be furnished by contractor.
4. The contractor shall take necessary precautions to ensure complete protection to public health, welfare, and safety. Adequate protection and warning devices shall be placed at locations surrounding work areas to prevent injuries to public and properties. Particular emphasis must be placed on safety devices for vehicular traffic. Any work areas that may create a hazard at night shall be well lighted from sunset to sunrise with lamps or lanterns visible from all approaches. All maintenance of traffic signals must be approved by Miami-Dade County and the Florida Department of Transportation.

2. Traffic Calming

The work of this section consists of providing the methodology to study a problematic street and/or area within the City of Miami Beach boundaries. The installation of traffic calming devices is regulated by the Miami Beach Traffic Calming Manual. This manual provides the methodology which includes policies, techniques and process and procedures to install traffic calming devices. The Traffic Calming Manual provides the process and procedures to study a problematic street and/or area within the City of Miami Beach boundaries.

A. Policies:

Specific points to consider in the design of traffic calming schemes include:

- Streets that are classified as arterial, collector or higher shall not be considered under this traffic calming guidelines.
- Emergency vehicles access must be preserved. Fire and Police Departments should be involved from the beginning.
- The cut-through traffic should be routed back to collector and arterial roadways.
- Public Works Department should look at the redistribution of traffic in adjacent streets. The impacts on adjacent streets and arterials must be measured.
- Public Works Department should look at the origin of the problem. No one uses a short-cut unless there is a reason to.
- Buses need to be able to negotiate traffic calming features safely, without undue discomfort to passengers and at a reasonable operating speed.
- Signing to ensure that Heavy Goods Vehicles (HGVs) and other 'through' traffic choose suitable routes that reduce the environmental impact of their journeys.
- Bicyclist and pedestrian access must be accommodated. Provision for pedestrians and cyclists should be of a high quality to promote the shift from the private car to more sustainable modes of transport. Adequate widths and carefully considered routes and priorities coupled with arrangements to make access for disabled people as easy as possible are required.

Public Works Department may recommend employing different traffic calming devices according to neighborhood's characteristics. Final decision will depend on consensus with the community.

B. Techniques:

PHYSICAL: In general, wider roads encourage higher automobile speeds. Many traffic-calming techniques are therefore designed to physically change the width of the street. If motorists can see far into the distance, their speed may increase. The interruptions of sight lines through changes in the road's direction, or breaking the road into smaller visual units using techniques such as chicanes and roundabouts, cause the drivers to slow down.

PSYCHOLOGICAL: Traffic calming may also be achieved by changing the psychological feel of the street. Streets using different surface types, vertical landscaping or narrowed lanes create the appropriate space for a relaxed, pedestrian-friendly atmosphere. These psychological changes give motorist cues that they are no longer on a major roadway, but are in a different environment that is shared with people.

There is an extensive menu of treatments that may be part of a traffic calming strategy. Such treatments include:

DEFLECTING PATHS: Deflecting the vehicle path causes the driver to reduce speed and be more attentive to the task of driving. Deflection is done through changing the route of the automobile. Some measures apply at mid-block locations, while others are most appropriate for intersections.

DIVERTING TRAVEL ROUTES: Diverting the driver's route increases travel time and encourages the driver to use another route. Traffic diverters, street closures, one-way streets, median closures and turning movement restrictions are examples of a diversion.

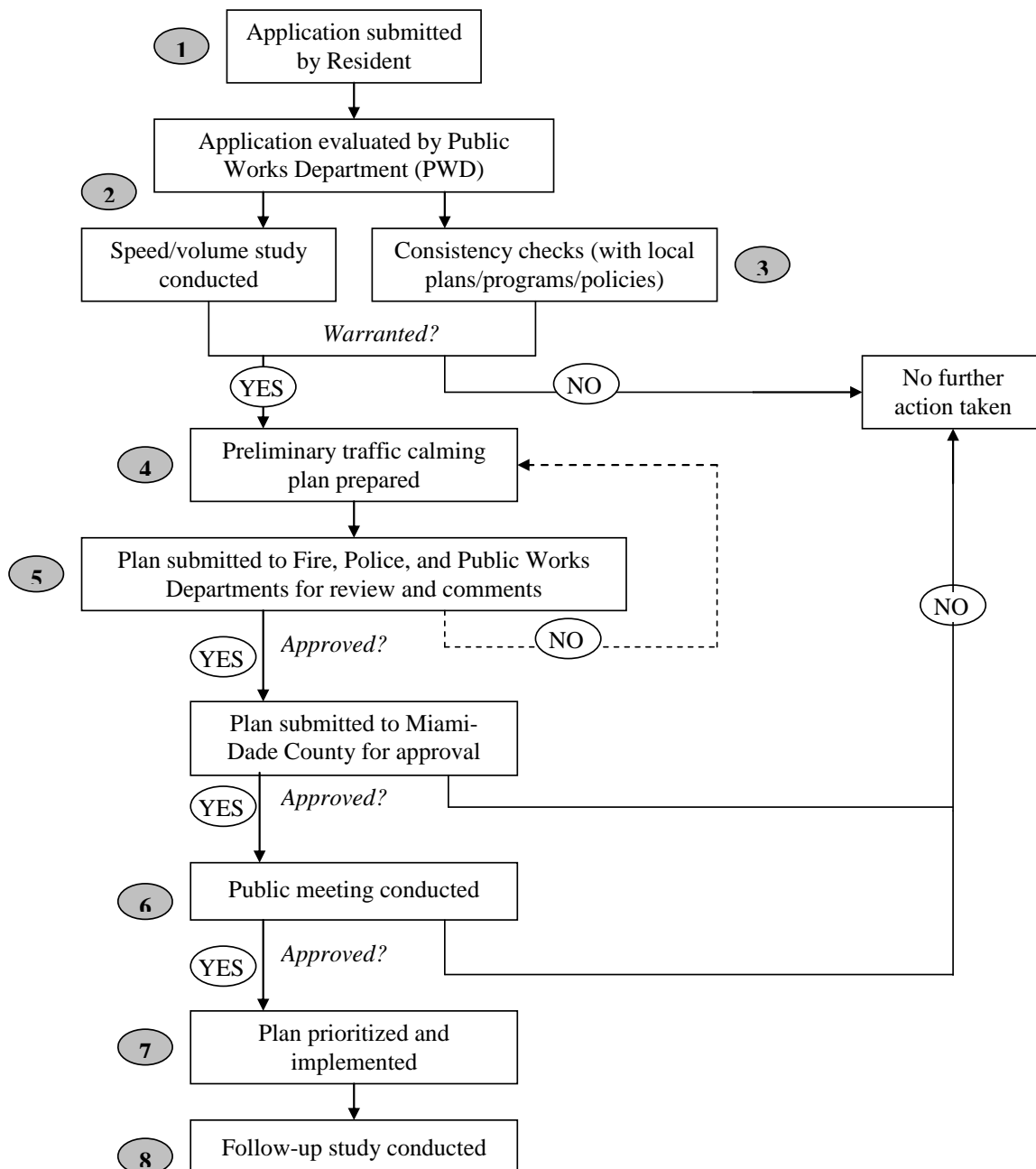
CHANGES TO PAVEMENT SURFACE: Changing the pavement surface demands attention from drivers, and reduces the speed for comfortable driving (the .design. speed). Speed humps, brick pavers and special pavement materials are among the most frequent approaches to changing the pavement surface.

TRAFFIC CONTROL DEVICES: Traffic control devices, where warranted, can be used to regulate traffic patterns.

ENFORCEMENT: Intensified enforcement of traffic regulations can calm traffic, generally, by reminding drivers of posted speed limits and by enforcing the observance of STOP signs. Police officers are the usual source of intensified enforcement, but neighborhood volunteers can also be very effective in assisting in an enforcement effort.

EDUCATION: The City of Miami Beach will make a conscious effort to initiate and maintain an educational program on traffic calming and safety within the city.:

C. Process and Procedures:



1. COMPLETE AND SUBMIT PROJECT APPLICATION: A preliminary traffic calming study can be initiated by a resident complaint, the request of a neighborhood association, or a Commissioner's request. The application in Appendix A of this document should be completed and submitted to the Public Works Department.

2. EVALUATE APPLICATION: City staff will identify the study area, collect preliminary data (the Miami Beach Public Works Department will perform speed and volume studies, collect accident reports), and complete the evaluation of the traffic calming request.

Speed and traffic volumes are the first criteria used to gauge whether a traffic calming study area warrants further research for possible development and implementation of a traffic calming plan. The tables below show the thresholds established for Miami Beach regarding speed and volume:

Points	85th speed is... above speed limit
0.5	less than 4.6 mph
1.0	4.6 to 7.5 mph
1.5	7.6 to 10.5 mph
2.0	10.6 to 13.5 mph
2.5	13.6 to 16.5 mph
3.0	more than 16.5 mph

Points	volume 24 hr.
0.5	500 - 750 veh.
1.0	751 - 1,100 veh.
1.5	1,101 - 1,700 veh.
2.0	1,701 – 2300 veh.
2.5	More than 2,300 veh

* The 85th percentile speed is defined as “the speed that is exceeded by 15% of the motorists surveyed”

The second criterion establishes the number of accidents per year during the last year along the street as a warrant for traffic calming study.

Points	No. of accidents
0.5	1-2
1.0	3
1.5	4 or more

i. Any street that ranks 2.5 or higher merits Traffic Calming upon approval of the City's Traffic Engineer. The neighborhood street would require 2/3 voter approval from residents and is subject to roadway design. Due to the curvature of the roadway, and other design characteristics, some streets may not be suitable for traffic calming.

ii. Any street that ranks 2.0 should be studied by the Traffic Management Team and the City's Traffic Engineering Consultant.

The following items may be included in the study:

1. A review of accident/ crash reports for a three calendar year period.
2. Location of school, pedestrian oriented facility (elderly housing) or community facility (park) located on the subject street or within an established walking area.

3. Driveway Density.
4. Presence/Absence of sidewalks.

After review of the above study, the project must be supported by the City's Traffic Consultant and the Traffic Management Team. The neighborhood street would require 2/3 voter approval from residents and is subject to roadway design. Due to the curvature of the roadway, and other design characteristics, some streets may not be suitable for traffic calming.

Any street that scores less than a 2.0 and is determined not to be an appropriate location based on the study completed will not be eligible for testing for 12 months after the speed/volume study is conducted. After two years of testing, if the street does not qualify for traffic calming, the project is ineligible for re-testing for 24 months.

3. CHECK FOR CONSISTENCY WITH CITY AND MPO PLANS AND PROGRAMS: Every effort will be made to ensure that any proposed physical traffic modifications will be consistent with City and County short and long range transportation plans and programs. However, this may require recommendations to change the priority of previously adopted plans and programs in order to more rapidly improve the efficiency of the arterial network near the affected neighborhood. In addition, every effort will be made to ensure that any physical traffic modifications are consistent with land use/zoning. The land use within neighborhoods, commercial and industrial areas will be reviewed carefully, and the determining factor for the classification of the road would be the predominant land use.

4. PREPARE THE DRAFT TRAFFIC CALMING PLAN: The engineering team will develop a preliminary set of traffic calming plan for the warranted street, taken into account a number of factors, including: proximity of proposed traffic calming device location relative to driveways, traffic control devices; locations of inlet, manhole, light pole; and any other traffic calming plans proposed for the subject street.

5. SUBMIT PLAN FOR APPROVAL: The draft plan will be submitted to the Fire Department, Police Department, and the Miami-Dade County for review and comments. Plan may be revised to address any concern expressed by these agencies.

6. CONDUCT NEIGHBORHOOD WORKSHOP: If the area of concern meets the minimum criteria outlined in this document, City staff will schedule a neighborhood workshop meeting with residents to review the results of preliminary studies and to receive comments on the preliminary design of the traffic calming plan.

Citizen participation is an essential ingredient in the development and implementation of a successful neighborhood traffic plan. Neighborhood residents offer insight into the nature and extent of traffic and safety problems. These residents are most directly affected by the problems and potential mitigating measures, and they are frequently the source of innovative solutions. The following are two levels of community involvement:

- A. Participatory programs involving community leaders and interested citizens.
- B. Outreach programs attempting to communicate with the silent citizens, normally the vast majority of residents.

Implementation of an effective traffic management program, which incorporates resident participation, will provide many benefits to the community. Benefits include effective transportation control, community safety and an enhanced quality of life.

Once the study is complete and a neighborhood meeting has been held, a ballot will be sent to each affected property owner. Approval of at least two-thirds (2/3) of the affected property owners is needed to proceed with the traffic calming plan.

7. PRIORITIZE AND IMPLEMENT PROJECT: Projects are prioritized Citywide based on the point score determined in Step 2, Request Evaluation. The highest-ranking projects are undertaken first. The number of projects initiated each year depends on City resources. The City notifies all project requesters of the status of their request after project approval. The City also notifies the appropriate neighborhood associations or homeowner associations of the status of the neighborhood projects within their neighborhood and asks for their comments.

City staff will finalize the design and implementation process for the proposed traffic calming devices. Specific techniques may be installed as a “test site”, while others will be installed permanently. “Test sites” will be monitored and evaluated for effectiveness. After a period of evaluation, measurable objectives and performance measures will be established on a case by case basis. It is noted that the City’s Traffic Engineering Standards will be consulted for adherence in relation to any proposed traffic calming measures.

8. EVALUATE PROJECT: Immediately following the installation of the project, City staff will begin an evaluation of the project’s effectiveness. This evaluation includes, but is not limited to, field observations, traffic counts, speed studies and other data collection (as needed). If the project has not met the objectives during the evaluation period, staff will notify the community’s representatives. City staff and community representatives may then decide to make modifications to the current plan. These modifications may include the implementation of additional or different techniques, or the removal of the traffic calming devices.

D. Characteristics of Traffic Calming Devices

Traffic calming measures can be separated into two groups based on the main impact intended:

Volume control measures are primarily used to address cut-through traffic problems by blocking certain movements, thereby diverting traffic to streets better able to handle it.

Speed control measures are primarily used to address speeding problems by changing vertical alignment, changing horizontal alignment, or narrowing the roadway. The distinction between the two types of measures is not as clear as their names suggest, since speed control measures frequently divert traffic to alternate routes, and volume control measures usually slow traffic.

	Volume Reductions	Speed Reductions	Noise	Emergency & Service Access	Cost Effectiveness
Speed Humps/Speed Cushions	Possible	Possible	Increase	Some problems	Moderate (\$2-\$5K)
Raised Crosswalks	No effect	No	No effect	No effect	Moderate (\$4K)
Textured Pavements	Unlikely	Yes	Minor change	No effect	Moderate to High (varies)
Traffic Circles	Unclear	Minor	Minor change	Some constraints	Moderate to High (\$10-\$30K w/o ROW cost)
Chockers/Bump-outs	Rare	Minor	Minor change	No effect	Moderate (\$10-\$20 per approach)
Short Medians	No	Yes	No effect	No effect	Moderate (\$5-\$15K)

Measure	Advantages	Disadvantages	Effectiveness
Speed Hump	<ul style="list-style-type: none"> • relatively inexpensive • relatively easy for bicycles to cross if designed appropriately • very effective in slowing travel speeds. 	<ul style="list-style-type: none"> • cause a "rough ride" for all drivers, and can cause severe pain for people with certain skeletal disabilities • force large vehicles, such as emergency vehicles and those with rigid suspensions, to travel at slower speeds • may increase noise and air pollution • have questionable aesthetics 	<ul style="list-style-type: none"> • For a 12-foot hump: Average of 22% decrease in the 85th percentile travel speeds, or from an average of 35.0 to 27.4 miles per hour; (from a sample of 179 sites). Average of 11% decrease in accidents, or from an average of 2.7 to 2.4 accidents per year (from a sample of 49 sites). • For a 14-foot hump: Average of 23% decrease in the 85th percentile travel speeds, or from an average of 33.3 to 25.6 miles per hour (from a sample of 15 sites). Average of 41% decrease in accidents, or from an average of 4.4 to 2.6 accidents per year (from a sample of 5 sites)
Raised Crosswalks	<ul style="list-style-type: none"> • improve safety for both pedestrians and vehicles • If designed well, they can have positive aesthetic value • They are effective in reducing speeds, though not to the extent of Speed Humps 	<ul style="list-style-type: none"> • can be expensive • Their impacts on drainage needs to be considered • They may increase noise and air pollution 	<ul style="list-style-type: none"> • For a 22-foot Speed Table (the most similar device for which data is available): • Average of 18% decrease in the 85th percentile travel speeds, or from an average of 36.7 to 30.1 miles per hour; (from a sample of 58 sites). • Average of 45% decrease in accidents, or from an average of 6.7 to 3.7 accidents per year (from a sample of 8 sites).

Textured Pavements	<ul style="list-style-type: none"> • can reduce vehicle speeds over an extended length • If designed well, they can have positive aesthetic value • Placed at an intersection, they can calm two streets at once 	<ul style="list-style-type: none"> • generally expensive, varying by materials used • If used on a crosswalk, they can make crossings more difficult for wheelchair users and the visually impaired 	<ul style="list-style-type: none"> • No data has been compiled on the effects of textured pavements
Traffic Circles	<ul style="list-style-type: none"> • very effective in moderating speeds and improving safety • If designed well, they can have positive aesthetic value • Placed at an intersection, they can calm two streets at once 	<ul style="list-style-type: none"> • difficult for large vehicles (such as fire trucks) to circumnavigate • must be designed so that the circulating lane does not encroach on the crosswalks • may require the elimination of some on-street parking • Landscaping must be maintained, either by the residents or by the municipality 	<ul style="list-style-type: none"> • Average of 11% decrease in the 85th percentile travel speeds, or from an average of 34.1 to 30.2 miles per hour (from a sample of 45 sites) • Including a large sample from Seattle, an average of 73% decrease in accidents, or from an average of 2.2 to 0.6 accidents per year (from a sample of 130 sites) • Excluding the large sample from Seattle, an average of 29% decrease in accidents, or from an average of 5.9 to 4.2 accidents per year (from a sample of 17 sites)
Chockers	<ul style="list-style-type: none"> • easily negotiable by large vehicles (such as fire trucks) • If designed well, they can have positive aesthetic value • reduce both speeds and volumes 	<ul style="list-style-type: none"> • Their effect on vehicle speeds is limited by the absence of any vertical or horizontal deflection • may require bicyclists to briefly merge with vehicular traffic • may require the elimination of some on-street parking 	<ul style="list-style-type: none"> • Average of 7% decrease in the 85th percentile travel speeds, or from an average of 34.9 to 32.3 miles per hour (combined average for various narrowing measures, taken from a sample of 7 sites)
Short Median (Center Island Narrowings)	<ul style="list-style-type: none"> • increase pedestrian safety • If designed well, they can have positive aesthetic value • reduce traffic volumes 	<ul style="list-style-type: none"> • Their speed-reduction effect is somewhat limited by the absence of any vertical or horizontal deflection • may require elimination of some on-street parking 	<ul style="list-style-type: none"> • Average of 7% decrease in the 85th percentile travel speeds, or from an average of 34.9 to 32.3 miles per hour (combined average for various narrowing measures, taken from a sample of 7 sites)

E. Application form:

PROJECT APPLICATION

ASSOCIATION:	_____	TODAY's	_____
LOCAL		DATE:	_____
ADDRESS:	_____	CONTACT	_____
		NAME:	_____
HOME PHONE:	_____	WORK	_____
		PHONE:	_____

WHICH NEIGHBORHOOD STREET(S) ARE OF CONCERN?

WHAT TRAFFIC OR SAFETY CONCERNS HAVE BEEN OBSERVED? (Check all that apply)

Speeding

Reckless driving

Cut-through vehicles

Noise

Vehicles not obey traffic control devices (stop signs, signal...)

Other: _____

RETURN COMPLETED APPLICATION TO:
PUBLIC WORKS DEPARTMENT
1700 Convention Center Drive

Miami Beach, FL 33139
ATTENTION: Transportation Division

E. Environmental Best Management Practices for Construction
For a safe and clean environment...

I. Land Disturbance

- Erosion
- Management of Stormwater
- Erosion and Sediment Control Devices
- Demolition
- Dewatering Work Sites
- Dust Control
- Management of stockpile and batters
- Working in Waterways and Areas Prone to Flooding
- Hurricane Preparedness Plan
- Tree Protection and Preservation
- Site Maintenance and Cleanliness

II. Noise and Vibration

- Operating Hours
- Vehicles and Equipment
- Traffic
- Noise Abatement
- Vibration

III. Waste minimization and Recycling

IV. Contaminated Material and Wastes

- Solid Inert Wastes
- Putrescible Wastes
- Contaminated Soil
- Regulated/Hazardous Materials and Wastes

V. Other Environmental Issues

- Emergency Procedures
- Air Quality
- Litter
- Storage of Chemicals and Fuels
- Road Cleaning
- Protecting Infrastructure

VI. Checklist

- Compliance with Legislative Requirements
- Pre Construction Planning
- Pre Construction Works
- Environmental Management Plan
- Land Disturbance
- Noise and Vibration
- Waste Minimization
- Contaminated Material and Soil
- Emergency Procedures
- Air Quality

Litter
Storage of Chemicals and fuels
Road Cleaning
Concrete Batching Plant
Inspection, Monitoring and Audits

VII. Environmental Review Worksheet

I. LAND DISTURBANCE

Large construction projects usually involve extensive land disturbance, involving the removal of vegetation and the reshaping of topography. Such activities make the soil vulnerable to erosion. Soil removed by erosion may become airborne and create a dust problem, or it may be carried into natural waterways and cause water pollution. Measures to address the impact of land disturbance on the environment should be included in the planning and design phase of a project, before any land is cleared. These measures should be placed into the framework of the segment environmental control plan. Regulatory standards and requirements take precedence over contents of this section where conflicts may occur.

Erosion

When considering land disturbance and its consequences, priority should be given to preventative rather than treatment measures. To develop effective erosion controls, it is necessary to obtain information on the erosion potential of the site where soil disturbance is planned. Erosion potential is determined by the erodibility of the soil (type and structure), vegetative cover, topography, climate (rainfall and wind), and the nature of land-clearing. Erosion potential will also be affected by the type, nature and intensity of earthwork. Erosion potential of rainfall can be calculated using the universal soil loss equation. (The universal soil loss equation predicts the long term average annual rate of erosion on a field slope based on rainfall pattern, soil type, topography, crop system and management practices.) Information on predicted soil losses from land disturbance should be used to plan and engineer control solutions. Ground cover provides the most effective means of preventing erosion. Consequently, sediment run-off and dust controls depend on retaining existing vegetation or re-vegetating and mulching disturbed areas as soon as possible. The following measures should be taken to minimize erosion:

Objective: To minimize the quantity of soil lost during construction due to land-clearing.

Suggested Measures:

- Keep land clearance to a minimum.
- Avoid wherever possible clearing areas of highly erodible soils and steep slopes which are prone to water and wind erosion.
- Re-vegetate and mulch progressively as each section of work is completed. The interval between clearing and re-vegetation should be kept to an absolute minimum.
- If more than one contractor is working on a site, coordinate work schedules to prevent delays in construction activities. Delays may leave disturbed land in an un-stabilized condition.
- Schedule construction activities so that the area of exposed soil is minimized during times of the year when the potential for erosion is high, such as May through October when intense rainstorms and hurricanes are common.
- Stabilize the site and install and maintain erosion controls so that they remain effective during any pause in construction. This is particularly important if a project stops during the wetter months.
- Design the slope of a cut to minimize the angle of incline.
- Cultivating the cut surface will increase infiltration of rainfall and decrease the velocity of water across the slope during rain and, therefore, will reduce erosion.

Management of Stormwater

Soil eroded during land disturbance can wash away and contaminate stormwater. If contaminated stormwater enters a drainage line or stormwater drainage system, it will eventually discharge into an adjacent waterway and pollute it (refer to the FDEP regulations for stormwater discharge in the Florida Administrative Code, Chapter 62-25 and Chapter 24 of the Miami-Dade County Code of Ordinances). The type of sediment controls suitable for a particular situation depend on the nature of the site, in terms of such factors as rainfall patterns, soil type and topography. These factors need to be taken into account when selecting appropriate controls and ensuring that designs are adequate. There are a number of ways of minimizing sediment run-off.

Reduce Stormwater on the Site: If uncontaminated water enters part of the site that has been cleared, it will quickly pick up sediment and need to be treated. Additional water may also add to the erosion potential, increasing the risk of pollution. It is therefore desirable to divert clean stormwater away from those parts of the site where soil is to be exposed. This can be done by constructing diversion banks and intercept drains around the site while ensuring that the water discharging from such banks or drains is disposed of without causing erosion. Wherever possible, the new stormwater drainage system should be installed before any land disturbance activities commence. If possible, on-site inlets should not be connected until the site has been stabilized and rehabilitated. In this way, silt-laden stormwater cannot escape the site via this route and pollute surface waters. It will have to be treated on site.

Water Velocities: There is a direct relationship between the velocity of water flowing over exposed soil and the rate of erosion. Installation of rock structures on the site to retard water flows is an effective measure to reduce erosion in areas where high water flows are expected. It is desirable to minimize continuous slopes where flowing water can scour. To prevent scouring, drainage lines may need to be lined or velocity-reducing structures, such as crushed rock or geotextile, placed in the drainage line.

Slopes: Any natural drainage lines that discharge water onto the top of a slope should be directed to grass areas by intercept drains. Otherwise, water will run down the slope, eroding it. Perimeter banks or sediment fences should also be constructed at the toe of the slope to contain sediment run-off.

Objective: To minimize the generation of contaminated stormwater.

Suggested Measures:

- Minimize the quantity of uncontaminated stormwater entering cleared areas.
- Establish cut-off or intercept drains to redirect stormwater away from cleared areas and slopes to stable (vegetated) areas or effective treatment installations.
- Reduce water velocities.

Erosion and Sediment Control Devices

There are a large number of control devices that will suit most circumstances. These Guidelines will address the general principles behind erosion and sediment controls, rather than providing detailed design specifications. Most damage is done in the initial part of a storm, between thirty minutes and two hours into a storm, and during prolonged storms. Designs of control structures, therefore, need to account for peak run off flows. When it is not possible to schedule work to avoid times of the year when high rainfall is expected, then additional controls may be required, such as installing extra sediment traps or enhancing the capacity of existing controls.

Sediment Interception and Settling: Sediment detention dams, ponds or basins hold sediment-contaminated run-off long enough for suspended sediment to settle out. Clarified water can then be discharged if approved by applicable agencies. Upon approval, run-off and sediment control structures should be designed and constructed to accept the expected peak flows and sediment

loads. Design guidelines are to be in accordance with governing agencies guidelines and requirements.

Interception and Chemical Treatment: Fine colloidal clays suspended in run-off require a long time to settle, often exceeding the economic or practical detention storage capacity. Flocculants may need to be added to hasten settlement. Residual flocculent in suspension should not be released if it degrades water quality or the aquatic habitat in natural waterways. Chemical sludge will require off-site disposal to a landfill licensed to accept such wastes. Permit conditions should be referenced.

Sediment Filtering: Adequate controls should be placed on all drainage lines. Silt loads should be treated as close to their source as possible using effective sediment traps, such as geotextile fences and straw bales.

Inspection, Maintenance and Cleaning: The effectiveness of sediment control devices depends on an adequate inspection, maintenance and cleaning program. Inspections, particularly during storms, will show whether devices are operating effectively (see Section 9.1). Where a device proves inadequate, it should be quickly redesigned to make it effective.

Objective: To minimize the impact of contaminated stormwater on receiving waters.

Suggested Measures:

- Install erosion and sediment control measures, if possible before construction commences.
- Identify drainage lines and install control measures to handle predicted stormwater and sediment loads generated in the mini-catchments.
- Design and install appropriate erosion and sediment run-off control measures for specific site conditions.
- Establish an adequate inspection, maintenance and cleaning program for sediment run-off control structures.
- Ensure that contingency plans are in place for unusual storm events.
- Continually assess the effectiveness of sediment control measures and make necessary improvements.

There are a large number of erosion and sediment run-off control devices which are available. The selection and design will depend on site-specific considerations and it is beyond the scope of these Guidelines to outline how to design such installations.

Demolition

Demolition describes those activities that involve the wrecking or taking out of any load supporting structural member of a facility together with any related handling operations or the intentional burning of any facility. Methods of destruction employed at demolition sites include the use of heavy machines, explosions/implosions, and hand methods. Demolition work involves many of the hazards associated with construction. In addition, breaking up buildings or structures is an inherently noisy and sometimes dusty operation.

A demolition plan describing proposed sequence, methods, and equipment for demolition and disposal should be submitted to the City for review prior to start of work.

Objective: To ensure that demolition activities do not adversely impact the natural environment and general surrounding areas.

Suggested Measures:

- Demolish and remove existing construction, utilities, equipment, and appurtenances without damaging integrity of existing structures, equipment, and appurtenances that are to remain.

- Exercise all necessary precautions for fire prevention. Do not burn demolition debris on or near site.
- Protect persons and property throughout progress of work. Proceed in such a manner as to minimize spread of dust and flying particles and to provide safe working conditions for personnel.
- Wet down work area during demolition operations to prevent dust from arising. Provide maximum practicable protection from inclement weather for materials, equipment, and personnel located in partially dismantled structures. Provide shoring or bracing where necessary to prevent settlement or displacement of existing or new structures. Do not overload floors. Complete demolition work on upper levels before disturbing supporting members on lower levels.
- Confine apparatus, storage of materials, demolition work, new construction, and operations of workmen to areas that will not interfere with continued use and operation of entire facility. Provide and maintain lights, barriers, and temporary passageways for free and safe access.
- Make necessary arrangements with and perform work required by utility companies and municipal departments for discontinuance or interruption of utility services due to demolition work.

Dewatering Work Sites

After rain, pooled water is often pumped off site. This water is often contaminated with suspended sediment, so it is essential that its disposal does not contribute to water pollution. To remove water from the work area, the pump intake should be kept as close to the surface of the pool as possible. Floating intakes should be used when the depth of water is sufficient. Care must be taken to avoid pumping from the bottom of ponds, and constant supervision is required during pumping operations to ensure this does not happen. Treatment is required before discharging runoff to a natural waterway or stormwater system, where turbidity exceeds the regulatory maximum NTU standard and is higher than upstream measurements. Hourly measurements of discharge water quality should be taken. Contaminated water pumped off the site should, wherever possible, be directed to vegetated areas. Precautions should be taken to ensure that such areas do not become waterlogged and have adequate capacity to effectively remove suspended solids. Where vegetated areas are not available, then water should be directed to existing or specially provided sediment control structures.

Pumping to natural waterways should be supervised throughout the course of the operations. In urban areas it may be possible to discharge contaminated run-off to sewers. Such a discharge will require approval of the relevant sewerage authority. Depending on the discharge method, local, state, or federal agencies may need to be consulted, particularly D.E.R.M. (See Chapter 24, Article II) prior to the discharge. For work in the City, NTUs are an abbreviation of nephelometric turbidity units, which is a measure of light scattered as it passes through a solution. It is not directly related to suspended material, but is a good measure of the clarity of a water sample. It can easily be measured in situ, making it a convenient measurement when an on-the-spot decision needs to be made. This option is of limited usefulness as dewatering the site will usually be required during or immediately after rainfall, when the sewers are also near capacity and unable to accept any additional volume.

Objective: To ensure that de-watering operations do not result in turbid water entering natural waterways.

Suggested Measures:

- Treat contaminated water pumped into the stormwater system or a natural waterway to remove sediment if the turbidity exceeds the regulatory maximum NTU standard.
- Ensure that the level of suspended solids in waters pumped into natural waterways never exceeds the regulatory water quality standard.
- Whenever practical, pumped water should be directed to sediment control devices or vegetated areas of sufficient width to remove suspended soil.

- Supervise all pumping and implement precautions to ensure that turbidity of pumped water is minimized.
- Monitor every hour during a pumping operation the turbidity of water pumped directly to a natural waterway or a drainage system discharging to a natural waterway.

Dust Control

Many of the measures taken to reduce dust problems are the same as those taken to minimize erosion and sediment run-off. All permittees, contractors, owners, operators, or other persons involved in construction activities must employ Dust Control measures (See Miami-Dade County Code of Ordinances Chapter 46, Section 24-16). Additional measures, not mentioned in the sections on erosion or sediment control are outlined below. One or a combination of the following methods must be used to maintain dust control on all disturbed soils and construction sites, including all access routes and staging areas:

- Prevent the generation of dust in preference to applying dust suppression measures. Ensure in the project schedule that the area of cleared land is minimized during the drier months of the year, when dust generation is at its greatest.
- The soil shall be maintained in a sufficiently damp condition to prevent loose grains of soil from becoming dislodged. The soil shall be completely crusted over by application of water or completely covered with clean gravel or treated with an approved Dust Suppressant.
- Pave and water haul roads. The frequency of watering will be determined by weather conditions and the erodibility of the soil. If additives in the water are used to increase its dust suppression properties, the chemical should have no adverse environmental impact on adjacent water bodies.
- Water areas other than haul roads, if they are a source of dust.
- Ensure that smooth surfaces are deep ripped and left rough and cloddy to reduce the wind velocity at the soil surface.
- Construct wind fences if this is appropriate for the site. As a contingency measure, in areas that do not have access to a water supply, water stored on-site should never be less than fifty percent of disturbed land surface. Wherever watering is used to suppress dust, ensure it does not create contaminated run-off that will contaminate surface waters.
- Use barriers where required to prevent the migration of sawdust or particulates from sanding or surface preparation activities during construction.

Objective: To ensure there is no health risk or loss of amenity due to emission of dust to the environment.

Suggested Measures:

- Implement a dust prevention strategy, to be developed at the project planning stage.
- Take dust suppression measures, such as promptly watering exposed areas when visible dust is observed.
- Install wind fences wherever appropriate.

Management of stockpile and batters

Stockpiles and batters are a potential source of dust and sediment run-off. Additional controls to those covered previously are outlined below.

Objective: To manage soil stockpiles so that dust and sediment in run-off are minimized.

Suggested Measures:

- Minimize the number of stockpiles, and the area and the time stockpiles are exposed.
- Keep topsoil and under-burden stockpiles separate.
- Locate stockpiles away from drainage lines, at least 30 feet away from natural waterways and in areas where they will be least susceptible to wind erosion.
- Ensure that stockpiles and batters are designed with slopes no greater than 2:1 (horizontal/vertical). A less steep slope may be required where the erosion risk is high.
- Finish and contour any stockpiles located in a potential flood area so as to minimize loss of material in a flood or rainfall event.
- Stabilize stockpiles and batters that will remain bare for more than 28 days by covering with mulch or anchored fabrics or seeding with sterile grass.
- Establish sediment controls around unstabilized stockpiles and batters. Encircle all unstabilized stockpiles and batters with silt fences or a drainage system that will collect and correctly dispose of contaminated water (see section 4.2).
- Locate stockpiles within thirty feet of natural surface waters only if no other alternatives exist. This situation should be identified in the risk assessment study.
- Suppress dust on stockpiles and batters, as circumstances demand.

Working in Waterways and Areas Prone To Flooding

Generally, an Environmental Resource Permit (ERP) must be obtained before beginning any activity that could affect wetlands or areas prone to flooding, alter surface water flows, or contribute to water pollution. The South Florida Water Management District (SFWMD) and the Florida Department of Environmental Protection (FDEP) have an operating agreement about which agency will process ERP permits for particular projects, based on the type of land use (See Section 40E, F.A.C. and Chapter 62 — DEP Rules). A permit to control water pollution, reduce flooding impacts, or install culverts or bridges at a specific site may also need to be obtained from The Department of Environmental Resources Management depending on the nature of the project. The Contractor should refer to D.E.R.M.'s ordinance code, Section 24-58, in the Miami-Dade County Code of Ordinances and also consult FDEP rules, Chapter 18, regarding Aquatic Preserves. Work in some waterways may also require approval from the U.S. Army Corps of Engineers.

However, some activities are exempt from ERP permits. The responsible drainage body must be consulted if there are any works that will impact a waterway. Any changes to the physical nature of a waterway require prior approval from the responsible drainage authority. At the design stage, consider all options to avoid working in a natural waterway.

Procedures: Where it is not possible to avoid working in an intracoastal waterway or canal, then additional precautions should be taken.

- Minimize the time during which work in a waterway is required, and the extent of works.
- Schedule work for the driest months of the year.
- Avoid times of the year when aquatic populations may be under stress, such as during spawning, or when food may be scarce.
- Establish protocols to minimize downstream damage.
- Stabilize any disturbance to a levee or any other bank so that erosion is avoided.
- Measure turbidity continuously immediately downstream from the areas in which work is occurring, and modify work practices where continuous monitoring shows degraded water quality.

- If working in a concrete channel, use appropriate machinery to avoid damage to structures.

Water Crossings: If activities require construction of a crossing, it should be installed during low tide, if feasible, with downstream weirs in place to trap any released sediment. Two types of access crossings may be considered.

- Culvert: this type of crossing may be effective in controlling erosion while in use, but will cause erosion during installation and removal.
- Bridge: this type of crossing must be used for major waterways and for other waterways with high flows.

The crossing should be protected against erosion, both to prevent excessive sedimentation in the waterway, and to prevent washout of the crossing. The crossing should be positioned perpendicular to the flow and located at the narrowest part of the canal or waterway. Damage to the bed and banks should be avoided. The crossing should be engineered to be stable under the expected vehicle loads. Drainage over the surface of the crossing and access road should have adequate controls to ensure that sediment run-off to the stream are minimized. If a cofferdam is used, minimum downstream flows should be maintained that will sustain the aquatic ecology. Waterway crossings also act as sediment traps. Cleaning sediment out behind a crossing should follow the same procedure as for weirs.

Contingency Planning: Contingency plans should also be in place for more intense storm events, particularly where works are planned to occur within an area prone to flooding. The contingency plan should consider the consequences to the environment for 5, 10, 20 and 100-year-frequency floods. The contingency plan should address:

- Methods to limit stormwater entering excavation areas.
- Enhancement of existing measures and installation of additional controls, when an intense storm event is forecasted.
- Sighting of construction facilities.
- Clean-up procedures, including disposal of excess water.
- A flood warning system.
- Procedures for preventing the loss of soil, fuel, chemicals or other materials that could adversely affect the environment.
- Notification to relevant authorities if unplanned incidents occur that could pose a risk to the environment.

Reinstatement Plan: Prior to works being undertaken on, near, or within a waterway, a reinstatement plan should be prepared and submitted for approval to the responsible drainage authority. The plan should include:

- Proposed changes to the waterway.
- The impact on adjacent vegetation.
- The type and form of flood protection works.
- Erosion and sediment run-off controls.
- Proposed methods for reinstatement of the waterway bed and banks.
- A re-vegetation plan addressing a period of no less than 12 months and including proposed species and locations, methods for weed control and ongoing maintenance until a satisfactory level of established plants is achieved.

Objective: To minimize stress on aquatic communities when working in a waterway.

Suggested Measures:

- Plan waterway works so that the contact time is minimized.
- Establish special practices so that impacts on the waterway and disturbance of its banks are minimized.
- Stabilize banks and waterway structures so that they do not contribute to the sediment load.
- Maintain minimum flows to ensure the viability of aquatic communities and ensure that there are no barriers to the passage of fish up and downstream.
- Avoid times of the year when environmental damage is expected to be highest.
- Construct waterway crossings during low flows, designed to be stable under expected vehicle loads and flow regimes that do not contribute to the sediment load in the water.
- Design crossings so that drainage off the crossing does not contribute sediment load to the waterway.
- Prepare a contingency plan for high rain events.
- Prepare a reinstatement plan if work in a body of water is planned or the structure of a waterway will be altered.

Hurricane Preparedness Plan

During the hurricane season, which runs from June to November, it may become necessary to suspend work due to an impending storm until the proper working conditions prevail.

Objective: To have a hurricane preparedness plan in place that protects all work, materials and equipment from exposure and properly safeguards all components of the project.

Suggested Measures:

- Within 30 days prior to beginning of construction, the Contractor should submit to the City a Hurricane Preparedness Plan. The plan should outline the necessary measures that the Contractor proposes to perform in the event of a tropical storm or hurricane.

Tree Protection and Preservation

Construction can potentially damage the existing trees confined within the construction zone. Besides their aesthetic value, some trees are valuable and may be environmentally- protected. Compliance with the environmental protection laws covering tree preservation typically falls under the auspices of The Miami-Dade County Department of Environmental Resources Management. The ordinance regarding this topic can be found in the Miami-Dade County Code of Ordinances, Section 24-60.5. The City of Miami Beach policies regarding trees can be found in the Miami Beach Code of Ordinances, Chapter 46, Article II.

Trees can be an important part of the ecological environment of the surrounding area. Measures should be in place to protect trees whenever necessary, including conservation of the canopy.

Objective: To protect existing trees that may be directly or indirectly affected by construction activities.

Suggested Measures:

- Outside of areas requiring earthwork for the construction of the new facilities, do not deface, injure, or destroy trees or shrubs, nor remove or cut them without prior approval. No ropes, cables, or guys should be fastened to or attached to any existing nearby trees for anchorage unless specifically authorized by the governing authority or agent. Where such special emergency use is permitted, first wrap the trunk with a sufficient thickness of burlap or rags over

which softwood cleats should be tied before any rope, cable, or wire is placed. The Contractor may in any event be responsible for any damage resulting from such use.

- Where trees may possibly be defaced, bruised, injured, or otherwise damaged by equipment, dumping or other operations, protect such trees by placing boards, planks, or poles around them. Monuments and markers should be protected similarly before beginning operations near them.
- Ensure that any trees or other landscape feature scarred or damaged by equipment or operations be restored as nearly as possible to its original condition. The Engineer should decide what method of restoration must be used and whether damaged trees should be treated and healed or removed and disposed of.
- Coat all scars made on trees by equipment, construction operations, or by the removal of limbs larger than 1-in, in diameter, as soon as possible with an approved tree wound dressing. All trimming or pruning should be performed in an approved manner by experienced workmen with saws or pruning shears. Tree trimming with axes should not be permitted.
- Use climbing ropes where necessary for safety. Trees that are to remain, either within or outside established clearing limits, that are subsequently damaged and are beyond saving, should be immediately removed and replaced.

Site Maintenance and Cleanliness

Objective: To maintain and leave the construction site in a neat and satisfactory condition during the progress of work and after construction has been completed.

Suggested Measures:

- As work progresses, clean up all rubbish, surplus materials, and the adjacent areas affected. Unneeded construction equipment should be removed and all damages repaired so that the public and property owners will be inconvenienced as little as possible.
- Any material or debris that has washed or flowed into or been placed in existing watercourses, ditches, gutters, drains, pipes structures, or elsewhere during the course of the Contractor's operations, must be entirely removed and satisfactorily disposed of during the progress of the work, and the ditches, channels, drains, pipes, structures, and work, etc., should, upon completion of the work, be left in a clean and neat condition.
- On or before the completion of the work, tear down and remove all temporary buildings and structures; remove all temporary works, tools, and machinery or other construction equipment; remove, acceptably disinfect, and cover all organic matter and material containing organic matter in, under, and around houses, and other buildings; remove all rubbish from any grounds which has been occupied; and leave roads and all parts of the premises and adjacent property affected by work operations in a neat and satisfactory condition.
- Upon completion of the work, remove from the sites of the subsurface explorations all plant, machinery, tools, equipment, temporary work, and surplus materials; remove all rubbish from any grounds which has been occupied; leave the roads and all parts of the premises and adjacent property affected by work operations in a neat and satisfactory condition.
- Thoroughly clean all materials and equipment installed, and upon completion of the work deliver it undamaged and in fresh and new-appearing condition. All mechanical equipment should be left fully charged with lubricant and ready for operation.
- Restore or replace, when and as directed, any public or private property damaged by work, equipment, or employees, to a condition at least equal to that existing immediately prior to the beginning of operations. To this end, perform as required all necessary highway or driveway, walkway, and landscaping work. Suitable materials, equipment, and methods should be used for such restoration. The restoration of existing property or structures should be done as promptly as practicable as work progresses and should not be left until the end of the contract period.

NOISE AND VIBRATION

Operating Hours

One of the most effective means of reducing noise nuisance from construction activities, where there are residents nearby, is to limit the times of operation of noisy equipment, vehicles, and operations. There are occasions when it is necessary to work beyond these times. Exceptions can be made in cases where an activity that has commenced cannot be stopped, such as a concrete pour, and deliveries may need to be made outside normal working hours to avoid a major traffic hazard. Documentation justifying out-of-hours work should be maintained and authorized by site management as well as the City Building Department. Local residents who are affected by such activities should be notified beforehand. Even with such restricted hours, every effort should be made to reduce the noise of all site activities. For a list of City ordinances governing noise, Chapter 46, Article IV of the Miami Beach Code of Ordinances may be referenced.

Vehicles and Equipment

Noise from vehicles and powered machinery and equipment on site should not exceed the manufacturer's specifications, based on the installation of a silencer. Equipment should be regularly serviced. Attention should also be given to muffler maintenance and enclosure of noisy equipment.

Traffic

There is a conflict between operational efficiency and local amenity, with regard to traffic flows in and out of a construction site. During normal business hours when traffic densities are high, deliveries of materials and large equipment can cause severe traffic snarls and even pose a danger to other vehicles. Out-of-hours deliveries will cause noise pollution from trucks moving past nearby houses. City traffic ordinances may be found in Chapter 106 of the Miami Beach Code of Ordinances. If for some reason, the normal flow of traffic has to be diverted or interrupted to accommodate construction activities within the City of Miami Beach, prior authorization from the City must be given. It may also be necessary to fulfill the permit requirements of Miami-Dade County or the Florida Department of Transportation depending on whether the street is a County or State-managed road.

Noise Abatement

Depending on the location of the facility, suitable noise suppression or abatement measures may be required, such as the provision of earthen embankments or other noise screens.

Vibration

On road construction, impact pile-driving may be used to establish a base for foundations. These operations can give rise to high levels of ground vibrations. The magnitude of the nuisance created by vibrations depends on the nature of soils transmitting the vibration and the distance to the nearest building.

Objective: To ensure nuisance from noise and vibration does not occur.

Suggested Measures:

- Fit and maintain appropriate mufflers on earth-moving and other vehicles on the site.
- Enclose noisy equipment.
- Provide noise attenuation screens, where appropriate.
- Where an activity is likely to cause a noise nuisance to nearby residents, restrict operating hours to between 7 am and 6 pm weekdays and 7 am to 1 pm Saturday, except where, for practical reasons, the activity is unavoidable.
- Noise should not be above background levels inside any adjacent residence between 10 pm and 7 am.

- Advise local residents when unavoidable out-of-hours work will occur.
- Schedule deliveries to the site so that disruption to local amenity and traffic are minimized.
- Conduct a study on the impact of ground vibration from construction activities where these operations occur within 150 feet of a building and take appropriate action.
- Minimize air vibrations.

WASTE MINIMIZATION AND RECYCLING

When choosing between waste minimization options, the following hierarchy for waste management is preferred: (i) waste avoidance and/or reduction (ii) reuse (iii) recycling. Diverting the waste stream in these ways means that waste treatment and waste disposal options can be reduced. Construction sites should pursue this hierarchy and seek out waste reduction opportunities. To identify opportunities, it is necessary to consider all aspects of the project and the wastes it generates. Waste can be minimized by using improved technology, recycled or reused on-site, or by making purchasing decisions that favor recycled products. Wherever possible, include performance measures and targets for reduction, reuse and recycling options in the environmental management plan. Waste minimization opportunities include:

- Obtaining construction materials, paints, lubricants and other liquids in reusable packaging or containers.
- Using noise barriers made from recycled materials
- Using overburden to construct temporary noise barriers.
- Using contaminated water out of sediment dams for dust suppression and irrigating adjacent vegetated land.
- Sending waste concrete from demolition activities to a concrete recycler instead of landfill.
- Segregating and recycling solid wastes generated by construction activities, offices and eating areas.
- Collecting lubricating oil from the construction vehicle fleet and sending it to a recycler.

The contractor's plan shall identify the elements of their waste stream during the project and outline plans for recycling and waste minimization.

Objective: To minimize the waste load discharged to the environment.

Suggested Measures:

- Carry out a waste minimization assessment which examines opportunities for waste avoidance reduction, reuse and recycling.
- Reduce wastes by selecting, in order of preference, avoidance, reduction, reuse and recycling.
- Incorporate waste minimization targets and measures into the environmental management plan.

CONTAMINATED MATERIAL AND WASTES

On large construction sites, it is possible that old landfills will be uncovered or the land found to be contaminated. In cases where this occurs, contaminated material or soil may need to be disposed of. Disposal methods adopted depend on the nature of the material. To obtain this information, a comprehensive sampling and analysis program is required so that the correct route for disposal can be determined. For an old landfill, sampling should also ascertain the odor levels, presence of methane, groundwater levels and leachate quality.

Solid Inert Wastes

Solid inert waste found on construction sites usually consists of building rubble, but may also include such items as demolition material, concrete, bricks, timber, plastic, glass, metals, bitumen, trees and shredded tires. Such wastes should be reused, recycled, or disposed of to a landfill site licensed to take such wastes. The Miami-Dade County Department of Environmental Resources Management and Florida Department of Environmental Protection regulate construction and demolition debris disposal operations.

Putrescible Wastes

Old landfills that accepted municipal rubbish also contain putrescible wastes. Putrescible wastes are defined as waste able to be decomposed by bacterial action. It usually consists of discarded food, domestic garbage, commercial wastes, grass and garden clippings and prunings. As many old landfills were not licensed it is possible that other wastes were buried, and the inspection and analytical program should be designed to detect other materials if they are present. Old landfills may also contain contaminated leachate and gases, such as methane and odorous sulphur gases. The biological and chemical condition of the landfill will depend on its age and contents. Excavating putrescible wastes could give rise to the following problems: escape of methane and odorous landfill gases, release of contaminated leachate, production of litter and prevalence of seagulls and vermin. The Department of Environmental Resources Management should be contacted immediately in these instances.

Precautions will need to be taken during excavation to ensure that these problems are adequately controlled. The controls for the excavation, disposal and rehabilitation of the remainder of the landfill are outlined below:

- Contain, extract and treat or dispose of contaminated water to the sewerage system, provided the appropriate approvals from the appropriate water board have been obtained.
- Extract and flare landfill gases, if sufficient quantities are present.
- Control odors during excavation by minimizing the working surface area and immediately covering with a clean fill. A deodorizer might also be needed to minimize emissions of odorous gases to the atmosphere.
- Limit leachate generation by minimizing infiltration or ingress of water into the landfill through installation of cut-off drains and banks around the excavation areas.
- Cap excavated areas with an impermeable material. Transport of the excavated putrescible waste to a licensed landfill may also cause problems. Old putrescible wastes can be highly odorous, and additional measures may need to be taken, such as using sealed and covered containers.

Contaminated Soil

Old landfills may contain soil contaminated with chemicals such as heavy metals and hydrocarbons. Construction sites may also intersect contaminated sites, with elevated levels of heavy metals, hydrocarbons or other toxic chemicals. The classification of contaminated soil depends on the concentrations of the contaminants and their leachability, as described in Section 24-11.1 in the Miami-Dade County Code of Ordinances.

Objective: To ensure that all contaminated material uncovered on a construction site are excavated and disposed of in an environmentally responsible manner.

Suggested Measures:

- Examine material uncovered on-site prior to disposal. If the wastes include putrescible wastes, then analyze leachate and landfill gases.
- Excavate material in a manner that avoids off-site environmental problems.
- Seal remaining contaminated material or wastes, where only part of the landfill has been excavated, to ensure that there is no off-site effect now or in the future.
- Transport odorous wastes in covered vehicles.
- Dispose of contaminated material in a landfill licensed to take the type of contaminated material or wastes uncovered.

Regulated/Hazardous Materials and Wastes

The contractor's plan shall specify, with respect to each regulated or hazardous material or waste expected to be used or generated during the project, how compliance with applicable local, state, and federal requirements will be achieved. Examples of such materials include diesel fuel skid tanks, cleaning solvents, paints, and other related materials or wastes. The placement, storage, containment, management, and disposal of such materials shall be specified. City ordinances governing hazardous materials and wastes should be referenced (Miami Beach Code of Ordinances, Sections 50-6 & 90- 103), along with the FDEP (Chapter 62, F.A.C.) and EPA (40 CFR Parts 240-299) guidelines and regulations. Storage and management of such materials is further addressed in Section 8.4.

OTHER ENVIRONMENTAL ISSUES

Emergency Procedures

Procedures should be in place and staff trained to deal with any emergency, which could cause major environmental damage. Adequate equipment, such as spill kits, should be kept on-site to deal with emergency spills.

Air Quality

There are three potential sources of air pollution on construction sites. They are exhaust gases from vehicles and machinery, exhaust material from chippers, and dust. Dust was addressed in Section 4. Contractors should check the Miami-Dade County Code of Ordinances, Section 24-15 & 24-15.1 to ensure compliance with air quality rules and regulations.

Objective: To ensure there is no health risk or loss of amenity due to emission of exhaust gases to the environment.

Suggested Measures:

- Ensure that all vehicles and machinery are fitted with appropriate emission control equipment, maintained frequently and serviced to the manufacturers' specifications.
- Smoke from internal combustion engines should not be visible for more than ten seconds.

Litter

There are two main sources of litter on construction sites: building material washed away during a storm and deposited into waterways, and rubbish thrown away by construction workers. Litter is often caused by thoughtlessness of staff and the unavailability of suitable litter bins on the

construction site. Chapter 46, Article III of the Miami Beach Code of Ordinances provides the City's rules and regulations governing litter.

Objective: To ensure that all litter is disposed of in a responsible manner, and is not released into the environment.

Suggested Measures:

- Maintain a high quality of housekeeping and ensure that materials are not left where they can be washed or blown away to become litter.
- Provide bins for construction workers and staff at locations where they consume food.
- Conduct ongoing awareness with staff of the need to avoid littering.

Storage of Chemicals and Fuels

Although it may be necessary to store fuels and chemicals on project sites, this inevitably creates an environmental risk. Spills can severely pollute waterways and land. Reducing the quantities of chemicals and fuel stored on-site to minimum practicable levels is desirable. Infrequently used chemicals should be ordered just before they are needed. It may be possible to use a mini-tanker to refuel vehicles, instead of relying on a central fuelling point.

There are several approaches that can be taken to reduce the risk of fuel spills. Steps could include designing storage units to prevent vehicles or fork-lifts puncturing tanks, fitting automatic cut-offs to fuel dispensers, and making units vandal resistant. Containment areas will prevent spilt fuel escaping and causing environmental damage. Containment area should be designed and installed in accordance with FDEP and EPA standards and guidelines (Chapter 62, F.A.C. and 40 CFR Parts 240-299 respectively). Key design issues addressed in the guidelines are volume of containment area, construction material, vehicular access, and stormwater management. Roofed containment areas are strongly preferred.

Should a spill occur, then it is necessary to have a contingency plan in place to deal with the clean-up. It should consider issues such as cleaning up spilled material on the site, containing and cleaning up spills which have entered waterways, disposal or reuse of recovered residues, and contacting key company and government agency personnel to advise them of the emergency.

Objective: To ensure that fuel and chemical storage is safe, and that any materials that escape do not cause environmental damage.

Suggested Measures:

- Minimize fuels and chemicals stored onsite.
- Install containment areas and take other precautions to reduce the risk of spills.
- Implement a contingency plan to handle spills, so that environmental damage is avoided.

Road Cleaning

Some sites require vehicles to move on and off the site. It is possible that these vehicles will transport soil off the site and deposit it on the adjacent roads. Prevention of soil being deposited on roads is preferable to cleaning them afterwards. All points on the site where vehicles regularly leave should have rumble grids and wheel washes installed. In wet weather it may be necessary to hose mud off vehicle wheels as they traverse the grid. All exits leading to the above mentioned controls should be paved with gravel. Top dress these paths periodically, and remove sediment from the wheel wash. Where there is only occasional use of road crossings (twice a day or less), or where there is insufficient space on the site to install a rumble grid and wheel wash then (at least) daily road sweeping should be instituted. Care should be taken to ensure that road

sweeping does not give rise to dust problems. The number of times a day that road cleaning occurs should be determined by the frequency of road usage and the state of the roads, which should be inspected often. Installation of litter traps lined with filter cloth in side-entry pits will trap soil in stormwater spilt on roads during rain. Where soil is being transported for off site disposal, then all loads should be covered.

Objective: To ensure that roads are kept clean of soil.

Suggested Measures:

- Install wheel washes and rumble grids at all main road crossings.
- Ensure that the roads are swept at least once a day on uncontrolled road crossings when construction vehicles are traveling off the site.
- Install litter traps lined with filter cloth in all side-entry pits.
- Cover all loads of soil being taken off site for disposal.

Protecting Infrastructure

In built-up areas, care must be taken in working near existing infrastructure services such as drainage and sewerage pipes. It is important to ensure that any existing drainage or sewerage pipes that intersect the construction site or are adjacent to it are not overstressed or damaged by movement or placement of construction plant or materials, or construction activities. Appropriate machinery must be used within concrete channels to avoid damage to structures.

Pre-Construction Planning: Assess all possible impacts that the project will have on the environment. Determine whether construction activities will intersect a contaminated site or old landfill. Assess impact of the development on the amenity of adjacent residents. Commence monitoring all segments of the environment to determine background conditions. Collect all relevant information on the site, and adjacent areas, that may be affected by the development.

Collect relevant weather and climate information. Obtain design plans, work schedules and work programs that may contribute to environmental risk. Obtain map of site topography and generate maps of changes in topography, as a result of the development. Calculate stormwater flows in each micro-catchment for each phase of the development. Map changes of vegetative cover and the position of stockpiles and batters, as a function of time. Collect information on flows of any natural waterways that will be affected by the development.

Identify all hazards to the environment. Quantify hazards whenever possible. Determine consequences of each hazard. Calculate total risk level for each hazard. Rank risks. Identify all significant risks. Develop an action plan to address all significant risks. Wherever possible seek to avoid risks or minimize them by modifying the project design or planned work program and schedule.

Based on information of monitoring, inspection and surveillance, update risk assessment, management and the environmental management plan.

Pre-Construction Works: Install stormwater drainage system (particularly to divert stormwater around the site) and major sediment controls prior to the project's commencement.

Environmental Management Plan: Construction companies must have an environmental management system in place before preparing the environmental management plan for the project. Ensure that all staff is adequately trained.

Ensure that all procedures are written down. Ensure that control and quality assurance systems are in place to ensure effectiveness of the environmental management system. Prepare an environmental management plan based on the risk management action plan. List special work procedures to avoid or reduce environmental harm.

Map cleared areas, as a function of time. Map changes of landform as a function of time and identify control measures on the map and position of soil stockpiles and batters. Include any special operational procedures required to protect the environment in the work site manual. Ensure that written contingency plans have been prepared and adequately resourced.

Ensure that best practice documents for the site are prepared and implemented. Document maintenance, inspection and surveillance schedule. Prepare a rehabilitation plan. Update plan, as required.

Land disturbance: Characterize erosion potential of the site during each phase of the development. Take action to minimize clearance of vegetation. Implement controls and re schedule works to reduce erosion. Stabilize cleared areas as soon as possible. Avoid working on areas vulnerable to erosion, wherever possible.

Reduce quantity of contaminated stormwater entering project site. Reduce water velocities, wherever possible. Reduce stormwater flows over bare slopes. Implement and maintain Erosion and Sediment Control Devices. Design control devices to handle expected peak water flows.

Treat intercepted water, if required, prior to discharge to the environment. Install control devices, as required. Install waterway weirs, as required. Implement a maintenance and inspection schedule for control devices. Prepare contingency plan and ensure it is adequately resourced. Improve design of control measures, if they don't operate effectively.

Establish procedures to ensure that contaminated water is not pumped into a natural waterway without adequate treatment. Ensure procedures are in place to ensure that pumping or dewatering operations are supervised and monitored.

A demolition plan describing proposed sequence, methods, and equipment for demolition and disposal should be submitted to the City for review prior to the start of work to ensure that demolition activities do not adversely impact the natural environment and general surrounding areas.

Implement a dust prevention strategy. Pave haul roads. Ensure adequate watering or treatment of areas that could give rise to dust.

Have a hurricane preparedness plan in place during the official hurricane season which properly safeguards all components of the project.

Implement measures to protect trees whenever necessary.

Implement a management program to minimize erosion and sediment runoff from stockpiles and bare batters. Stabilize stockpiles and batters, if they are to remain bare for more than 28 days. Establish sediment controls around unstabilized stockpiles and batters.

Consult responsible drainage body for approval. Establish procedures to minimize impact on waterway. Design and construct crossings, if required, to minimize impact on the waterway.

Ensure that written contingency plans have been prepared and adequately resourced. Prepare and submit a re-instatement plan to the relevant drainage authority for approval.

Air Quality: Implement adequate maintenance regime for vehicle and machinery exhausts. Install controls on equipment or vehicles that are polluting the atmosphere.

Litter: Establish procedures to avoid the generation of litter. Install adequate litter bins on site. Implement staff awareness program.

Storage of Chemicals and Fuels: Establish procedures to minimize the quantities of chemicals and fuels required to be stored on site. Install containment around storage areas. Implement adequately resourced contingency plans.

Road Cleaning: Install wheel washes and rumble grids, as required. Implement a program for adequate cleaning of roads, if required. Install lined litter traps in side entry pits, if required. Ensure that trucks taking soil off site are covered.

Concrete Batching Plants: Obtain a Works Approval.

Inspections, monitoring and audits: Implement an adequate program of inspections, monitoring and audits.

F. Electronic Media Standards and Requirements

It is the City's intent that all electronic drawing files, regardless of what firm produces them, be similar in style and content. To this end, all consultants must conform to the following guidelines.

The following shall be the minimum requirements for all CADD deliverables. In addition to the required hardcopy document, digital files shall be provided in the latest version of AUTOCAD in the .dwg file format. All drawings files in a project shall be saved in the same version of AUTOCAD. All CAD files will be setup by inserting the Title Block in "Paper Space" and the drawing in "Model Space". All drawing files will be saved in AUTOCAD.dwg format

- 1. Drawing within the AutoCAD file shall be drawing at 1:1 scale in MODEL SPACE. The Plotting scale unless otherwise noted, shall be:**

Plan View 1"=20'

Horizontal Profile 1"=20'

Vertical Profile 1"=2'

- 2. Entities shall be set into layers as per the approved Layer Properties Guide shown in Table 1.**
3. Base Line station numbers shall be 1/8 inch minimum high in paper space.
4. Street names shall be 1/4 inch minimum high in paper space. All other texts shall be as per approved Scale-Lettering Guide shown in Table 6.
5. To maintain uniformity in notes, labels, dimensioning, ect., each plotted scale will have 3 different text styles (small, medium, and large). There will also be an additional text style for dimensioning (dim). All text styles will use the simplex font type as noted in Table 4, (Dimensioning Guide) and Table 6, (Lettering Guide).
6. Base Line stationing shall increase from west to east and from south to north. Beginning stations at project site should be labeled and referenced to the nearest intersection.
7. Topography shall be plotted in one single and complete file using The Florida Coordinate Systems 1983/90, East Zone for horizontal control and NAVD 88 for vertical control.
8. Labels for topography items shall be outside of the right-of-way and shall be oriented to read from the right side of the plan.

9. General notes, abbreviations, arrows and other standard symbols shall be as per the approved Symbol Guide shown in Table 3, Part III Section 14.
10. Tick marks and station values shall be placed at every 100' stations. Tick marks shall be 1/8 inch minimum length in paper space. Intermediate tick marks shall be placed every 20' between tick marks.
11. All entities shall be created in such a form that they may be edited. No protection of text or symbols will be allowed.
12. Right-of way lines, baselines, lot lines and other geometry related entities shall be Set at Z=0.00 elevations
13. Line weight and shade shall be as per the approved Layer and Line Weight Guide show in Table 1.
14. Dimension variables shall be similarly as per the approved Dimensions Guide shown in Table 4.
15. All final drawings shall be produced to plot a full-size equivalent ANSI D (landscape) - 22 inches by 34 inches as per the approved Frame / Limits Guide in Table 5.
16. All drawings must show at a minimum the following: Right-of-Way lines, center lines, base lines, monument lines if any, easements if any, tied to permanent reference points, lot lines, parcel lines, monuments, street names, Right-of-Way dimensions, plat subdivision information and property addressees, utility easements, north arrow and graphic scale.
17. Utility drawings must show as a minimum, the following: Separate profile for each segment and utility type (Water, Sewer, Storm Sewer, etc.); plan showing size, material, and offset of main, deflections (if any), station, services, hydrant, lateral, manholes and fittings.
18. External References (X-Refs): All drawing files will be composed of two file types; model files or sheet files. Each file type will have its own directory named either "/MODEL/" or "/SHEET/". All entities that represent existing and/or natural improvements will be drawn in "Model" space. These entities will always be drawn to real world size using the foot unit of measure. All entities will be drawn with the appropriate color, line type, and weight and set by layer as noted in Table 1. Note that consultants will submit a Certification of Adherence with CAD Standards form with their 60, 90 percent completion submittals and the final contract document set, as provided at the end of this section. Please note that the PM will randomly select two (2) drawings which the consultant shall provide in electronic format as part of the submittal to be checked for conformance with the Public Works Manual. This includes the following:
 - Model Files will contain the base drawing illustrating the over-all plan of the project, which will be used to provide the graphic for plan, elevations, sections, profiles, ect... in the sheet files.
 - Sheet files will show border graphics, text and symbology, for plan elevations, sections, profiles, details, ect.
 - In addition, the consultant will refrain from "nesting" reference files (i.e. placing a reference file within a reference file).
 - The consultant will ensure that all reference files are properly located in the "/MODEL/" directory.
 - The consultant will use only elements that are standard to AutoCAD (i.e. no third party software elements). Elements are vector, text, dimensions, hatches, shape files, blocks, etc.

- Raster images may be used only to present digital photographic images of filled logos. Be sure to include the raster images in the “/MODEL/” directory.
- To simplify production of full and half sheets, all elements in the sheet file will be created to fit on D-size sheets, 34 inches wide (x) and 22 inches high (y).
- The consultant will refrain from the use of nested blocks, making sure that all blocks are transportable in their host file, without loss of information.
- All patterns used in the AutoCAD file must be produced by the core AutoCAD software, and not specific to any third party software.

All information will be complete and accurate enough for the City of Miami Beach Public Works Department to be able to reproduce the final hard copy plot on their AutoCAD system. As a minimum this includes the following:

- Plotter name and model;
- Graphic output language (HPGL, EPS, ect);
- List of reference files visible in the plot, including sheet borders and title blocks;
- List of visible blocks;
- List of visible layers;
- Pen assignments;
- Other setting which control output (lock);
- Plot date, date of last modification to file, archive date;
- and, any other consideration needed to produce the plot.

All contract drawing deliverables to the City of Miami Beach will be in digital CD-ROM format, containing the two major directories: “/MODEL/” and “/SHEET/”.

19. The “Revision Box” shall be completed for each phase of the project, i.e., Design Phase, Bidding Phase, and Construction Phase. For the Design Phase the “Revision Box” shall be completed for each of the Design Progress submittals, i.e., 60%, 90%, 100%, permitting submittals, ect. Once the design is complete the “Revision Box” shall be cleared to track the bidding phase of the project, i.e., Issued for Bidding, Addendum No. 1, Addendum No. 2, etc. At the completion of the bidding phase once again the “Revision Box” shall be cleared to track the construction phase of the project, i.e., Conformed Drawing, Contract Document Clarification No. 1, Request for Proposal No. 1, Record Drawing, etc.
20. Each Base Drawing shall have a Drawing Key Map on the bottom right corner of the sheet. The drawing Key Map will be “keyed” to the Site Key Map for the project. The Drawing Key Map will clearly identify the limits of proposed improvements depicted on the Base Drawing in relation to the overall Site Key Map.
21. Where required, miscellaneous plans and details will be prepared. These drawing will be prepared at a minimum 1” = 20’ scale, although partial plans may be at greater scales if deemed necessary by the consultant to illustrate the requisite level of detail. References to external resources without illustrating the actual detail in the documents will not be permitted.
22. Please note the following conventions to be used when establishing drawing names:
 - G: General
 - EC: Existing Conditions
 - DM: Demolition
 - PG&D: Paving, Grading and Drainage
 - HS: Hardscape
 - Pavers
 - Specialty Concrete / Finishes

- Sidewalks
 - Bollards
 - Fencing
- WM: Water Main
- SS: Sanitary Sewer
- SW: Storm water
- E: Electrical
- LA: Landscape (Streetscape)
 - Plantings
 - Groundcovers
 - Sod / Seed
 - Grating
 - Street Furnishings & Accessories
- IR: Irrigation
- PM: Pavement Marking and Signage

23. All Final Documents and As Built Documents shall be as per the approved File Naming Guide shown in Table 2.



MIAMI BEACH

City of Miami Beach, 1700 Convention Center Drive, Miami Beach, Florida 33139, www.miamibeachfl.gov

Public Works Department
Tel: 305-673-7080, Fax: 305-673-7028

CITY OF MIAMI BEACH, PUBLIC WORKS MANUAL, CONSULTANT ACKNOWLEDGEMENT OF COMPLIANCE WITH CAD STANDARDS

Project Name: _____

Completion Stage Submittal: Circle one - 60% 90% 100%

This checklist is intended to verify Consultant adherence to the City of Miami Beach AutoCAD Latest Version Standards. Each A/E Consultant will furnish a completed list with its 60%, 90%, 100% completion stage Contract

Please indicate the total number of drawings in the submittal set: _____

- | | | |
|---|------------------------------|-----------------------------|
| Have all Drawing files been named in accordance with City standards? _____ | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Have all Drawing files been named in accordance with City standards? _____ | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Have all X-refs been named and layered in accordance with City standards? _____ | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Do the Cover Sheet and Title Block match City standards? _____ | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Is a Key Map provided? _____ | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Are individual Discipline Drawings referenced to the Key Map? _____ | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Have all Utility Owners in the Area been contacted and their input noted? _____ | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Has the topographic survey base map been X-ref'd in to each drawing? _____ | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Have all design related items been placed in "Modelspace"? _____ | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Have the proper discipline layering / naming criteria been adhered to? _____ | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Have all hatch patterns and shading guidelines been followed? _____ | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Are all colors in accordance with specified City line weight standards? _____ | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Are dimensions and leader s associated with an item? _____ | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Are graphical scales provided on each drawing in paperspace? _____ | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Are north arrows provided on each drawing as applicable, in paperspace? _____ | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Is the Consultant's logo properly inserted in paperspace? _____ | <input type="checkbox"/> Yes | <input type="checkbox"/> No |

Comments: _____

Signature

Print Name and Title

Company

TABLE 1

LAYER AND PROPERTIES



SECTION 1-E TABLE 1 LAYERS PROPERTIES

PUBLIC WORKS DEPARTMENT
1700 CONVENTION CENTER DR
MIAMI BEACH, FL, 33139

	LAYER NAME ABD =ABANDONED LN =LINE PRO=PROPOSED PT =POINT(block insertion) STA =STATION TX =TEXT	Object Type	Screen Display	Linetype	Lineweight (see GROUPS LINEWEIGHT apart)	Black / White Printing/Plotting (CMB Standard.ctb)	Color Printing/Plotting (CMB Standard Color.ctb)	Description
1	0	N/A	7 (white)	CONT.	DEFAULT	N/A	7 (white)	
2	ADA_DIM	DIMENSION	7 (white)	CONT.	GROUP 3	7 (white)	7 (white)	AMERICAN DISABILITY ACT
3	ADA_DIM_PRO	DIMENSION	7 (white)	CONT.	GROUP 3	7 (white)	7 (white)	AMERICAN DISABILITY ACT
4	ADA_LN	LINE	130 (light blue)	CONT.	GROUP 4	8 (Screening 80%)	130 (light blue)	AMERICAN DISABILITY ACT
5	ADA_LN_PRO	LINE	132 (blue-green dark)	CONT.	GROUP 4	7 (white)	132 (blue-green dark)	AMERICAN DISABILITY ACT
6	ADA_TX	TEXT	7(white)	CONT.	GROUP 3	7 (white)	7(white)	AMERICAN DISABILITY ACT
7	ADA_TX_PRO	TEXT	7 (white)	CONT.	GROUP 3	7 (white)	7 (white)	AMERICAN DISABILITY ACT
8	ATTRIBUTES	TEXT	7 (white)	CONT.	GROUP 3	7 (white)	7 (white)	LABEL/TAG ATTACHES DATA TO BLOCK
9	AUXILIARY	ANY	8(magenta)	CONT.	ANY	ANY	8(magenta)	ANY ENTITY IN THIS LAYER HELP DRAWING PROCESS
10	BASELINE_LN	LINE	7 (white)	CONT.	GROUP 4	7 (white)	7 (white)	
11	BASELINE_PT	POINTS	7 (white)	CONT.	GROUP 4	7 (white)	7 (white)	
12	BASELINE_STA	TEXT	7 (white)	CONT.	GROUP 3	7 (white)	7 (white)	
13	BASELINE_TX	LINE	7 (white)	CONT.	GROUP 3	7 (white)	7 (white)	
14	BORDER_LN	LINE	7 (white)	CONT.	GROUP 6	7 (white)	7 (white)	
15	BORDER_TX	TEXT	7 (white)	CONT.	GROUP 3	7 (white)	7 (white)	



SECTION 1-E TABLE 1
LAYERS PROPERTIES

PUBLIC WORKS DEPARTMENT
1700 CONVENTION CENTER DR
MIAMI BEACH, FL, 33139

LAYER NAME ABD =ABANDONED LN =LINE PRO=PROPOSED PT =POINT(block insertion) STA =STATION TX =TEXT	Object Type	Screen Display	Linetype	Lineweight (see GROUPS LINEWEIGHT apart)	Black / White Printing/Plotting (CMB Standard.ctb)	Color Printing/Plotting (CMB Standard Color.ctb)	Description
16 BUILDING_LN	LINE	8 (Screening 60%)	CONT.	GROUP 4	8 (Screening 60%)	8 (Screening 60%)	
17 BUILDING_TX	TEXT	7 (white)	CONT.	GROUP 3	7 (white)	7 (white)	
18 CATV_OH_LN	LINE	40 (light orange)	CABLE_TV	GROUP 5	7 (white)	40 (light orange)	CABLE/TELEVISION OVERHEAD CABLES
19 CATV_OH_PT	BLOCK/POINT	40 (light orange)	CONT.	GROUP 3	8 (Screening 60%)	40 (light orange)	
20 CATV_OH_TX	TEXT	7 (white)	CONT.	GROUP 3	7 (white)	7 (white)	
21 CATV_UG_LN	LINE	40 (light orange)	CABLE_TV	GROUP 5	8 (Screening 60%)	40 (light orange)	CABLE/TELEVISION UNDERGROUND CABLES
22 CATV_UG_PT	BLOCK	40 (light orange)	CONT.	GROUP 3	8 (Screening 60%)	40 (light orange)	
23 CATV_UG_TX	TEXT	7 (white)	CONT.	GROUP 3	7 (white)	7 (white)	
24 CENTER_LN	LINE	4 (cyan)	CENTER2	GROUP 1	8 (Screening 60%)	4 (cyan)	
25 CURB_GUT_LN	BLOCK/POINT	8 (Screening 60%)	HIDDEN2	GROUP 5	7 (white)	8 (Screening 60%)	CURB & GUTTER LIMITS
26 CURB_GUT_LN_PRO	LINE	7 (white)	CONT.	GROUP 5	7 (white)	7 (white)	
27 CURB_GUT_TX	TEXT	7 (white)	CONT.	GROUP 3	7 (white)	7 (white)	
28 CURB_GUT_TX_PRO	TEXT	7 (white)	CONT.	GROUP 3	7 (white)	7 (white)	
29 DE	TEXT	7 (white)	CONT.	DEFAULT	7 (white)	7 (white)	POINT DESCRIPTION LAYER FROM TOTAL STATION "TRANSIT" SOFTWARE
30 DEPOINTS	POINTS	7 (white)	CONT.	DEFAULT	7 (white)	7 (white)	



SECTION 1-E TABLE 1
LAYERS PROPERTIES

PUBLIC WORKS DEPARTMENT
1700 CONVENTION CENTER DR.
MIAMI BEACH, FL, 33139

LAYER NAME ABD =ABANDONED LN =LINE PRO=PROPOSED PT =POINT(block insertion) STA =STATION TX =TEXT	Object Type	Screen Display	Linetype	Lineweight (see GROUPS LINEWEIGHT apart)	Black / White Printing/Plotting (CMB Standard.ctb)	Color Printing/Plotting (CMB Standard Color.ctb)	Description
31 DIM	DIMENSION	7 (white)	CONT.	GROUP 3	7 (white)	7 (white)	GENERAL DIMENSIONS
32 DRIVEWAY_HATCH	HATCH	8 (Screening 60%)	CONT.	GROUP 1	8 (Screening 60%)	8 (Screening 60%)	
33 DRIVEWAY_HATCH_PRO	HATCH	4 (cyan)	CONT.	GROUP 1	8 (Screening 60%)	4 (cyan)	
34 DRIVEWAY_LN	LINE	8 (Screening 60%)	HIDDEN2	GROUP 4	8 (Screening 60%)	8 (Screening 60%)	
35 DRIVEWAY_LN_PRO	LINE	7 (white)	CONT.	GROUP 4	7 (white)	7 (white)	
36 DRIVEWAY_TX	LINE	7 (white)	CONT.	GROUP 3	7 (white)	7 (white)	
37 EASEMENT_LN	LINE	7(white)	DASHED	GROUP 4	7 (white)	7(white)	
38 EASEMENT_LN_OLD	LINE	8(screening 60%)	DASHED	GROUP 4	8 (Screening 60%)	8(screening 60%)	
39 EASEMENT_LN_PRO	LINE	7 (white)	DASHED	GROUP 4	7 (white)	7 (white)	
40 EL	TEXT	7 (white)	CONT.	GROUP 3	7 (white)	7 (white)	POINT ELEVATION LAYER FROM TOTAL STATION "TRANSIT" SOFTWARE
41 ELECT_OH_LN	BLOCK	10 (red)	ELECTRIC	DEFAULT	8 (Screening 60%)	10 (red)	ELECTRICAL OVERHEAD CABLE
42 ELECT_OH_PT	TEXT	10 (red)	CONT.	GROUP 3	8 (Screening 60%)	10 (red)	
43 ELECT_OH_TX	LINE	7 (white)	CONT.	GROUP 3	7 (white)	7 (white)	
44 ELECT_UG_LN	BLOCK	10 (red)	ELECTRIC	DEFAULT	8 (Screening 60%)	10 (red)	ELECTRICAL UNDERGROUND CABLE
45 ELECT_UG_PT	TEXT	10 (red)	CONT.	GROUP 3	8 (Screening 60%)	10 (red)	
46 ELECT_UG_TX	TEXT	7 (white)	CONT.	GROUP 3	7 (white)	7 (white)	



SECTION 1-E TABLE 1 LAYERS PROPERTIES

PUBLIC WORKS DEPARTMENT
1700 CONVENTION CENTER DR.
MIAMI BEACH, FL , 33139

LAYER NAME ABD =ABANDONED LN =LINE PRO=PROPOSED PT =POINT(block insertion) STA =STATION TX =TEXT	Object Type	Screen Display	Linetype	Lineweight (see GROUPS LINEWEIGHT apart)	Black / White Printing/Plotting (CMB Standard.ctb)	Color Printing/Plotting (CMB Standard Color.ctb)	Description
47 ELEVATION_EXISTING	BLOCK/TEXT	7 (white)	CONT.	GROUP 3	7 (white)	7 (white)	SEE BLOCK VW ATTRIBUTE IN "LIBRARY" FOLDER
48 ELEVATION_PRO	BLOCK/TEXT	7 (white)	CONT.	GROUP 3	7 (white)	7 (white)	SEE BLOCK VW ATTRIBUTE IN "LIBRARY" FOLDER
49 EROSION_CONTROL_LN	LINE	8 (Screening 80%)	CONT.	GROUP 6	7 (white)	8 (Screening 80%)	
50 FENCE_LN	LINE	8 (Screening 80%)	FENCE	GROUP 3	8 (Screening 80%)	8 (Screening 80%)	
51 FENCE_TX	LINE	7 (white)	CONT.	GROUP 3	7 (white)	7 (white)	
52 FENCE_LN_PRO	LINE	7(white)	FENCE	GROUP 4	7(white)	7(white)	
53 GAS_LN	POLYLINE	40 (orange)	GAS	DEFAULT	8 (Screening 80%)	40 (orange)	
54 GAS_PT	BLOCK/POINT	40 (orange)	CONT.	GROUP 3	8 (Screening 80%)	40 (orange)	
55 GAS_TX	TEXT	7 (white)	CONT.	GROUP 3	7 (white)	7 (white)	
56 GRADE_LN	LINE	44 (brown)	CONT.	GROUP 5	7 (white)	44 (brown)	GRADE LEVEL IN PROFILES
57 GRADE_TX	TEXT	7 (white)	CONT.	GROUP 3	7 (white)	7 (white)	
58 HATCH	HATCH	4 (cyan)	CONT.	GROUP 1	7 (white)	4 (cyan)	
59 IMAGE	IMAGE	n/a	n/a	n/a	n/a	n/a	LAYER TO INSERT IMAGES
60 IRRIGATION_LN	POLYLINE	201 (light violet)	HIDDEN2	DEFAULT	8 (Screening 80%)	201 (light violet)	
61 IRRIGATION_LN_PRO	POLYLINE	20 (violet)	HIDDEN2	DEFAULT	8 (Screening 80%)	20 (violet)	
62 IRRIGATION_PT	BLOCK/POINT	201 (light violet)	CONT.	GROUP 3	8 (Screening 80%)	201 (light violet)	



SECTION 1-E TABLE 1
LAYERS PROPERTIES

PUBLIC WORKS DEPARTMENT
1700 CONVENTION CENTER DR.
MIAMI BEACH, FL, 33139

LAYER NAME ABD=ABANDONED LN =LINE PRO=PROPOSED PT =POINT(block insertion) STA =STATION TX =TEXT	Object Type	Screen Display	Linetype	Lineweight (see GROUPS LINEWEIGHT apart)	Black / White Printing/Plotting (CMB Standard.ctb)	Color Printing/Plotting (CMB Standard Color.ctb)	Description
63 IRRIGATION_PT_PRO	BLOCK/POINT	20 (violet)	CONT.	GROUP 3	8 (Screening 80%)	20 (violet)	
64 IRRIGATION_TX	TEXT	7 (white)	CONT.	GROUP 3	7 (white)	7 (white)	
65 IRRIGATION_TX_PRO	TEXT	7 (white)	CONT.	GROUP 3	7 (white)	7 (white)	
66 LANDSCAPE_PALM	BLOCK	62 (light green)	CONT.	GROUP 1	8 (Screening 80%)	62 (light green)	
67 LANDSCAPE_PALM_PRO	BLOCK	80 (dark green)	CONT.	GROUP 4	7 (white)	80 (dark green)	
68 LANDSCAPE_SHRUBS	BLOCK	62 (light green)	CONT.	GROUP 1	8 (Screening 80%)	62 (light green)	
69 LANDSCAPE_SHRUBS_PRO	BLOCK	80 (dark green)	CONT.	GROUP 4	7 (white)	80 (dark green)	
70 LANDSCAPE_SOD	HATCH	62 (light green)	CONT.	GROUP 1	8 (Screening 80%)	62 (light green)	
71 LANDSCAPE_SOD_PRO	HATCH	80 (dark green)	CONT.	GROUP 4	7 (white)	80 (dark green)	
72 LANDSCAPE_TREES	BLOCK	62 (light green)	CONT.	GROUP 1	8 (Screening 80%)	62 (light green)	
73 LANDSCAPE_TREES_PRO	BLOCK	80 (dark green)	CONT.	GROUP 4	7 (white)	80 (dark green)	
74 LANDSCAPE_TX	TEXT	7 (white)	CONT.	GROUP 3	7 (white)	7 (white)	
75 LANDSCAPE_TX_PRO	TEXT	7 (white)	CONT.	GROUP 3	7 (white)	7 (white)	
76 LEGEND_TX	TEXT	7 (white)	CONT.	GROUP 3	7 (white)	7 (white)	
77 LIGHT_LN	TEXT	10 (red)	LIGHTS	DEFAULT	7 (white)	10 (red)	UNDERGROUND STREET LIGHTS CABLES
78 LIGHT_LN_PRO	LINE	12 (red)	LIGHTS	DEFAULT	7 (white)	12 (red)	



SECTION 1-E TABLE 1

LAYERS PROPERTIES

PUBLIC WORKS DEPARTMENT

1700 CONVENTION CENTER DR

MIAMI BEACH, FL, 33139

LAYER NAME ABD =ABANDONED LN =LINE PRO=PROPOSED PT =POINT(block insertion) STA =STATION TX =TEXT	Object Type	Screen Display	Linetype	Lineweight (see GROUPS LINEWEIGHT apart)	Black / White Printing/Plotting (CMB Standard.ctb)	Color Printing/Plotting (CMB Standard Color.ctb)	Description
79 LIGHT_PT	BLOCK	10 (red)	CONT.	GROUP 3	7 (white)	10 (red)	
80 LIGHT_PT_PRO	BLOCK	12 (red)	CONT.	GROUP 3	7 (white)	12 (red)	
81 LIGHT_TX	TEXT	7 (white)	CONT.	7 (white)	7 (white)	7 (white)	
82 LIGHT_TX_PRO	TEXT	7 (white)	CONT.	7 (white)	7 (white)	7 (white)	
83 LOGO_SYMBOL	BLOCK	150(blue)	CONT.	DEFAULT	150(blue)	150(blue)	CITY OF MIAMI BEACH SYMBOL IN LOGO
84 LOGO_TX	BLOCK	189,221,14	CONT.	DEFAULT	189,221,14	189,221,14	CITY OF MIAMI BEACH TEXT IN LOGO
85 LOT_LN	LINE	7 (white)	CONT.	GROUP 4	7 (white)	7 (white)	
86 LOT_TX	LINE	7 (white)	CONT.	GROUP 3	7 (white)	7 (white)	
87 MOT_LN	LINE	8 (Screening 80%)	CONT.	GROUP 4	7 (white)	8 (Screening 80%)	MAINTENANCE OF TRAFFIC LINES
88 MOT_HATCH	LINE	4 (cyan)	CONT.	GROUP 1	7 (white)	4 (cyan)	
89 MOT_PT	BLOCK	7 (white)	CONT.	GROUP 3	7 (white)	7 (white)	
90 MOT_TX	TEXT	7 (white)	CONT.	GROUP 3	7 (white)	7 (white)	
91 MVIEW	VIEWPORT	5(blue)	CONT.	GROUP 4	7 (white)	5(blue)	IN PAPER SPACE LAYOUT LIMITS
92 OFF	ANY ELEMENT IN ANY LAYER	ANY	ANY	ANY	ANY	ANY	ALL OBJECTS NOT REMOVED & NOT VISIBLE
93 PARCEL_LN	LINE	8 (Screening 80%)	CONT.	GROUP 8	8 (Screening 80%)	8 (Screening 80%)	PARCEL BOUNDARY
94 PARCEL_TX	TEXT	7 (white)	CONT.	7 (white)	7 (white)	7 (white)	



SECTION 1-E TABLE 1 LAYERS PROPERTIES

PUBLIC WORKS DEPARTMENT
1700 CONVENTION CENTER DR.
MIAMI BEACH, FL, 33136

LAYER NAME ABD =ABANDONED LN =LINE PRO=PROPOSED PT =POINT(block insertion) STA =STATION TX =TEXT	Object Type	Screen Display	Linetype	Lineweight (see GROUPS LINEWEIGHT apart)	Black / White Printing/Plotting (CMB Standard.ctb)	Color Printing/Plotting (CMB Standard Color.ctb)	Description
PAVE_EDGE_LN	LINE	8 (Screening 60%)	HIDDEN2	GROUP 4	8 (Screening 60%)	8 (Screening 60%)	EDGE OF PAVEMENT LIMITS
PAVE_EDGE_LN_PRO	LINE	7 (white)	CONT.	GROUP 4	7 (white)	7 (white)	
PAVE_EDGE_TX	TEXT	7 (white)	CONT.	GROUP 3	7 (white)	7 (white)	
PAVE_EDGE_TX_PRO	TEXT	7 (white)	CONT.	7 (white)	7 (white)	7 (white)	
PAVE_MARK_BIKE_LN	4" POLYLINE	8 (Screening 60%)	CONT.	DEFAULT	8 (Screening 60%)	8 (Screening 60%)	BYCICLE LANE LIMITS
PAVE_MARK_BIKE_LN_PRO	4" POLYLINE	5 (blue)	CONT.	DEFAULT	7 (white)	5 (blue)	
PAVE_MARK_BIKE_TX	4" POLYLINE	7 (white)	CONT.	GROUP 3	7 (white)	7 (white)	
PAVE_MARK_LN	POLYLINE	8 (Screening 60%)	CONT.	DEFAULT	8 (Screening 60%)	8 (Screening 60%)	STRIPES IN PAVEMENTS
PAVE_MARK_LN_PRO	POLYLINE	7 (white)	CONT.	DEFAULT	7 (white)	7 (white)	
PAVE_MARK_TX	TEXT	7 (white)	CONT.	GROUP 3	7 (white)	7 (white)	
PAVE_MARK_TX_PRO	TEXT	7 (white)	CONT.	GROUP 3	7 (white)	7 (white)	
PAVE_MARK_PT	BLOCK	8 (Screening 60%)	CONT.	GROUP 3	8 (Screening 60%)	8 (Screening 60%)	
PAVE_MARK_PT_PRO	BLOCK	5 (blue)	CONT.	GROUP 3	7 (white)	5 (blue)	
PN	TEXT	7 (white)	CONT.	GROUP 3	7 (white)	7 (white)	POINT NUMBER LAYER FROM TOTAL STATION "TRANSIT" SOFTWARE
PROPERTY_LN	LINE	7 (white)	DASHED	GROUP 3	7 (white)	7 (white)	PROPERTY BOUNDARY
PT	POINT	7 (white)	CONT.	DEFAULT	7 (white)	7 (white)	POINT LAYER FROM TOTAL STATION "TRANSIT" SOFTWARE



SECTION 1-E TABLE 1
LAYERS PROPERTIES

PUBLIC WORKS DEPARTMENT
1700 CONVENTION CENTER DR
MIAMI BEACH, FL, 33136

	LAYER NAME ABD=ABANDONED LN =LINE PRO=PROPOSED PT =POINT(block insertion) STA =STATION TX =TEXT	Object Type	Screen Display	Linetype	Lineweight (see GROUPS LINEWEIGHT apart)	Black / White Printing/Plotting (CMB Standard.ctb)	Color Printing/Plotting (CMB Standard Color.ctb)	Description
111	ROAD_TX	TEXT	7 (white)	CONT.	GROUP 3	7 (white)	7 (white)	NAMES OF STREETS / ROADS
112	ROW_DIM	DIMENSION	7 (white)	CENTER2	GROUP 3	8(magenta)	7 (white)	RIGHT OF WAY DIMENSIONING
113	ROW_LN	LINE	1 (red)	PHANTOM2	GROUP 6	7 (white)	1 (red)	
114	ROW_LN_OLD	LINE	8 (Screening 60%)	PHANTOM2	GROUP 6	8 (Screening 60%)	8 (Screening 60%)	
115	SIDEWALK_LN	LINE	8 (Screening 60%)	HIDDEN2	GROUP 4	8 (Screening 60%)	8 (Screening 60%)	SIDEWALK LIMITS
116	SIDEWALK_LN_PRO	LINE	5 (blue)	CONT.	GROUP 4	7 (white)	5 (blue)	
117	SIDEWALK_TX	TEXT	7 (white)	CONT.	GROUP 3	7 (white)	7 (white)	
118	SIDEWALK_TX_PRO	TEXT	7 (white)	CONT.	GROUP 3	7 (white)	7 (white)	
119	SN_FM_DIM	DIMENSION	7 (white)	CONT.	GROUP 3	7 (white)	7 (white)	SANITARY FORCE MAIN DIMENSIONS
120	SN_FM_LN 24 INCHES	POLYLINE	42 (brown)	FORCEMAIN	DEFAULT	8 (Screening 60%)	42 (brown)	
121	SN_FM_LN 30 INCHES	POLYLINE	42 (brown)	FORCEMAIN	DEFAULT	8 (Screening 60%)	42 (brown)	
122	SN_FM_LN 36 INCHES	POLYLINE	42 (brown)	FORCEMAIN	DEFAULT	8 (Screening 60%)	42 (brown)	
123	SN_FM_LN 54 INCHES	POLYLINE	42 (brown)	FORCEMAIN	DEFAULT	8 (Screening 60%)	42 (brown)	
124	SN_FM_LN_PRO 24 INCHES	POLYLINE	34 (dark brown)	FORCEMAIN	DEFAULT	7 (white)	34 (dark brown)	
125	SN_FM_LN_PRO 30 INCHES	POLYLINE	34 (dark brown)	FORCEMAIN	DEFAULT	7 (white)	34 (dark brown)	
126	SN_FM_LN_PRO 36 INCHES	POLYLINE	34 (dark brown)	FORCEMAIN	DEFAULT	7 (white)	34 (dark brown)	



SECTION 1-E TABLE 1
LAYERS PROPERTIES

PUBLIC WORKS DEPARTMENT
1700 CONVENTION CENTER DR
MIAMI BEACH, FL, 33136

LAYER NAME ABD =ABANDONED LN =LINE PRO=PROPOSED PT =POINT(block insertion) STA =STATION TX =TEXT	Object Type	Screen Display	Linetype	Lineweight (see GROUPS LINEWEIGHT apart)	Black / White Printing/Plotting (CMB Standard.ctb)	Color Printing/Plotting (CMB Standard Color.ctb)	Description
127 SN_FM_PT	BLOCK	42 (brown)	CONT.	GROUP 3	8 (Screening 60%)	42 (brown)	
128 SN_FM_PT_PRO	BLOCK	34 (dark brown)	CONT.	GROUP 3	7 (white)	34 (dark brown)	
129 SN_FM_TX	TEXT	7 (white)	CONT.	GROUP 3	7 (white)	7 (white)	
130 SN_FM_TX_PRO	TEXT	7 (white)	CONT.	GROUP 3	7 (white)	7 (white)	
131 SN_LAT_LN_04 INCHES	POLYLINE	42 (brown)	SANITARY	DEFAULT	8 (Screening 60%)	42 (brown)	SANITARY LATERAL (4" PIPE)
132 SN_LAT_LN_06 INCHES	POLYLINE	42 (brown)	SANITARY	DEFAULT	8 (Screening 60%)	42 (brown)	
133 SN_LAT_LN_08 INCHES	POLYLINE	42 (brown)	SANITARY	DEFAULT	8 (Screening 60%)	42 (brown)	
134 SN_LAT_LN_PRO_04 INCHES	POLYLINE	34 (dark brown)	SANITARY	DEFAULT	7 (white)	34 (dark brown)	
135 SN_LAT_LN_PRO_06 INCHES	POLYLINE	34 (dark brown)	SANITARY	DEFAULT	7 (white)	34 (dark brown)	
136 SN_LAT_LN_PRO_08 INCHES	POLYLINE	34 (dark brown)	SANITARY	DEFAULT	7 (white)	34 (dark brown)	
137 SN_LAT_PT	BLOCK	42 (brown)	SANITARY	DEFAULT	8 (Screening 60%)	42 (brown)	
138 SN_LAT_PT_PRO	BLOCK	34 (dark brown)	34 (dark brown)	34 (dark brown)	34 (dark brown)	34 (dark brown)	
139 SN_LAT_TX	TEXT	7 (white)	CONT.	GROUP 3	7 (white)	7 (white)	
140 SN_LAT_TX_PRO	TEXT	7 (white)	CONT.	GROUP 3	7 (white)	7 (white)	
141 SN_SEW_DIM	DIMENSION	7 (white)	CONT.	GROUP 3	7 (white)	7 (white)	SANITARY SEWER DIMENSIONS
142 SN_SEW_FLOW	BLOCK	7 (white)	CONT.	DEFAULT	7 (white)	7 (white)	



SECTION 1-E TABLE 1
LAYERS PROPERTIES

PUBLIC WORKS DEPARTMENT
1700 CONVENTION CENTER DF
MIAMI BEACH, FL, 33131

LAYER NAME ABD=ABANDONED LN =LINE PRO=PROPOSED PT =POINT(block insertion) STA =STATION TX =TEXT	Object Type	Screen Display	Linetype	Lineweight (see GROUPS LINEWEIGHT apart)	Black / White Printing/Plotting (CMB Standard.ctb)	Color Printing/Plotting (CMB Standard Color.ctb)	Description
143 SN_SEW_ID	TEXT	7 (white)	CONT.	GROUP 3	7 (white)	7 (white)	SANITARY SEWER IDENTIFICATION NUMBER
144 SN_SEW_LN_06 INCHES	POLYLINE	32 (brown)	SANITARY	DEFAULT	8 (Screening 60%)	32 (brown)	
145 SN_SEW_LN_08 INCHES	POLYLINE	32 (brown)	SANITARY	DEFAULT	8 (Screening 60%)	32 (brown)	
146 SN_SEW_LN_12 INCHES	POLYLINE	32 (brown)	SANITARY	DEFAULT	8 (Screening 60%)	32 (brown)	
147 SN_SEW_LN_18 INCHES	POLYLINE	32 (brown)	SANITARY	DEFAULT	8 (Screening 60%)	32 (brown)	
148 SN_SEW_LN_24 INCHES	POLYLINE	32 (brown)	SANITARY	DEFAULT	8 (Screening 60%)	32 (brown)	
149 SN_SEW_LN_ABD	POLYLINE	21 (light orange)	SANITARY	DEFAULT	8 (Screening 60%)	21 (light orange)	
150 SN_SEW_LN_PRO 06 INCHES	POLYLINE	34 (dark brown)	SANITARY	DEFAULT	8 (Screening 60%)	34 (dark brown)	
151 SN_SEW_LN_PRO 08 INCHES	POLYLINE	34 (dark brown)	SANITARY	DEFAULT	8 (Screening 60%)	34 (dark brown)	
152 SN_SEW_LN_PRO 12 INCHES	POLYLINE	34 (dark brown)	SANITARY	DEFAULT	8 (Screening 60%)	34 (dark brown)	
153 SN_SEW_LN_PRO 18 INCHES	POLYLINE	34 (dark brown)	SANITARY	DEFAULT	8 (Screening 60%)	34 (dark brown)	
154 SN_SEW_LN_PRO 24 INCHES	POLYLINE	34 (dark brown)	SANITARY	DEFAULT	8 (Screening 60%)	34 (dark brown)	
155 SN_SEW_PT	BLOCK	32 (brown)	CONT.	GROUP 3	7 (white)	32 (brown)	
156 SN_SEW_PT_ABD	BLOCK	33 (light brown)	CONT.	GROUP 3	8 (Screening 60%)	33 (light brown)	
157 SN_SEW_PT_PRO	BLOCK	34 (dark brown)	CONT.	GROUP 3	7 (white)	34 (dark brown)	
158 SN_SEW_TX	TEXT	7 (white)	CONT.	GROUP 3	7 (white)	7 (white)	



SECTION 1-E TABLE 1
LAYERS PROPERTIES

PUBLIC WORKS DEPARTMENT
1700 CONVENTION CENTER DF
MIAMI BEACH, FL, 33136

LAYER NAME ABD =ABANDONED LN =LINE PRO=PROPOSED PT =POINT(block insertion) STA =STA TION TX =TEXT	Object Type	Screen Display	Linetype	Lineweight (see GROUPS LINEWEIGHT apart)	Black / White Printing/Plotting (CMB Standard.ctb)	Color Printing/Plotting (CMB Standard Color.ctb)	Description
159 SN_SEW_TX_ABD	TEXT	7 (white)	CONT.	GROUP 3	7 (white)	7 (white)	
160 SN_SEW_TX_PRO	TEXT	7 (white)	CONT.	GROUP 3	7 (white)	7 (white)	
161 ST_SEW_DIM	DIMENSION	7 (white)	CONT.	GROUP 3	7 (white)	7 (white)	STORM SEWER DIMENSIONING
162 ST_SEW_LN_08 INCHES	8" WIDTH POLYLINE	52 (dark green)	STORM	DEFAULT	8 (Screening 60%)	52 (dark green)	
163 ST_SEW_LN_10 INCHES	10" WIDTH POLYLINE	52 (dark green)	STORM	DEFAULT	8 (Screening 60%)	52 (dark green)	
164 ST_SEW_LN_12 INCHES	12" WIDTH POLYLINE	52 (dark green)	STORM	DEFAULT	8 (Screening 60%)	52 (dark green)	
165 ST_SEW_LN_16 INCHES	16" WIDTH POLYLINE	52 (dark green)	STORM	DEFAULT	8 (Screening 60%)	52 (dark green)	
166 ST_SEW_LN_24 INCHES	24" WIDTH POLYLINE	52 (dark green)	STORM	DEFAULT	8 (Screening 60%)	52 (dark green)	
167 ST_SEW_LN_36 INCHES	36" WIDTH POLYLINE	52 (dark green)	STORM	DEFAULT	8 (Screening 60%)	52 (dark green)	
168 ST_SEW_LN_42 INCHES	42" WIDTH POLYLINE	52 (dark green)	STORM	DEFAULT	8 (Screening 60%)	52 (dark green)	
169 ST_SEW_LN_PRO 08 INCHES	8" WIDTH POLYLINE	74 (dark green)	STORM	DEFAULT	7 (white)	74 (dark green)	
170 ST_SEW_LN_PRO 10 INCHES	10" WIDTH POLYLINE	74 (dark green)	STORM	DEFAULT	7 (white)	74 (dark green)	
171 ST_SEW_LN_PRO 12 INCHES	12" WIDTH POLYLINE	74 (dark green)	STORM	DEFAULT	7 (white)	74 (dark green)	
172 ST_SEW_LN_PRO 16 INCHES	16" WIDTH POLYLINE	74 (dark green)	STORM	DEFAULT	7 (white)	74 (dark green)	
173 ST_SEW_LN_PRO 24 INCHES	24" WIDTH POLYLINE	74 (dark green)	STORM	DEFAULT	7 (white)	74 (dark green)	
174 ST_SEW_LN_PRO 36 INCHES	36" WIDTH POLYLINE	74 (dark green)	STORM	DEFAULT	7 (white)	74 (dark green)	



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LAYERS PROPERTIES

PUBLIC WORKS DEPARTMENT
1700 CONVENTION CENTER DR
MIAMI BEACH, FL, 33135

LAYER NAME ABD =ABANDONED LN =LINE PRO=PROPOSED PT =POINT(block insertion) STA =STATION TX =TEXT	Object Type	Screen Display	Linetype	Lineweight (see GROUPS LINEWEIGHT apart)	Black / White Printing/Plotting (CMB Standard.ctb)	Color Printing/Plotting (CMB Standard Color.ctb)	Description
175 ST_SEW_LN_PRO 42 INCHES	42" WIDTH POLYLINE	74 (dark green)	STORM	DEFAULT	7 (white)	74 (dark green)	
176 ST_SEW_LN TO BE ABANDONED	POLYLINE	74 (dark green)	STORM ABANDONED	DEFAULT	7 (white)	74 (dark green)	
177 ST_SEW_LN ABD	POLYLINE	52 (dark green)	STORM ABANDONED	DEFAULT	8 (Screening 60%)	52 (dark green)	
178 ST_SEW_PT	BLOCK	52 (dark green)	CONT.	GROUP 3	7 (white)	52 (dark green)	
179 ST_SEW_PT_PRO	BLOCK	74 (dark green)	CONT.	GROUP 3	7 (white)	74 (dark green)	
180 ST_SEW_TX	TEXT	7 (white)	CONT.	GROUP 3	7 (white)	7 (white)	
181 ST_SEW_TX_PRO	TEXT	7 (white)	CONT.	GROUP 3	7 (white)	7 (white)	
182 STREET_FURNITURE_PT	BLOCK	8 (Screening 60%)	CONT.	GROUP 3	8 (Screening 60%)	8 (Screening 60%)	OBJECTS ON STREETS / ROADS (BLOCKS)
183 STREET_FURNITURE_PT_PRO	BLOCK	7 (white)	CONT.	GROUP 3	7 (white)	7 (white)	
184 STREET_FURNITURE_TX	TEXT	7 (white)	CONT.	GROUP 3	7 (white)	7 (white)	
185 STREET_FURNITURE_TX_PRO	TEXT	7 (white)	CONT.	GROUP 3	7 (white)	7 (white)	
186 STREET_SIGN_CITY_PT	BLOCK	8 (Screening 60%)	CONT.	GROUP 3	8 (Screening 60%)	8 (Screening 60%)	
187 STREET_SIGN_CITY_PT_PRO	BLOCK	7 (white)	CONT.	GROUP 3	7 (white)	7 (white)	
188 STREET_SIGN_CITY_TX	TEXT	7 (white)	CONT.	GROUP 3	7 (white)	7 (white)	
189 STREET_SIGN_CITY_TX_PRO	TEXT	7 (white)	CONT.	GROUP 3	7 (white)	7 (white)	
190 TEL_OH_LN	POLYLINE	30 (orange)	PHONE	DEFAULT	7 (white)	30 (orange)	TELEPHONE OVERHEAD CABLE



SECTION 1-E TABLE 1 LAYERS PROPERTIES

PUBLIC WORKS DEPARTMENT
1700 CONVENTION CENTER DR.
MIAMI BEACH, FL, 33136

	LAYER NAME ABD =ABANDONED LN =LINE PRO=PROPOSED PT =POINT(block insertion) STA =STATION TX =TEXT	Object Type	Screen Display	Linetype	Lineweight (see GROUPS LINEWEIGHT apart)	Black / White Printing/Plotting (CMB Standard.ctb)	Color Printing/Plotting (CMB Standard Color.ctb)	Description
191	TEL_OH_PT	BLOCK	30 (orange)	CONT.	GROUP 3	7 (white)	30 (orange)	
192	TEL_OH_TX	TEXT	7 (white)	CONT.	GROUP 3	7 (white)	7 (white)	
193	TEL_UG_LN	POLYLINE	30 (orange)	30 (orange)	30 (orange)	30 (orange)	30 (orange)	TELEPHONE UNDERGROUND CABLE
194	TEL_UG_PT	BLOCK	30 (orange)	30 (orange)	30 (orange)	30 (orange)	30 (orange)	
195	TEL_UG_TX	TEXT	7 (white)	CONT.	GROUP 3	7 (white)	7 (white)	
196	TEXT	TEXT	7 (white)	CONT.	GROUP 3	7 (white)	7 (white)	GENERAL TEXT
197	TRAFFIC_OH_LN	POLYLINE	10 (red)	10 (red)	10 (red)	10 (red)	10 (red)	TRAFFIC OVERHEAD CABLE
198	TRAFFIC_OH_PT	BLOCK	10 (red)	10 (red)	10 (red)	10 (red)	10 (red)	
199	TRAFFIC_OH_TX	TEXT	7 (white)	CONT.	GROUP 3	7 (white)	7 (white)	
200	TRAFFIC_UG_LN	POLYLINE	10 (red)	10 (red)	10 (red)	10 (red)	10 (red)	TRAFFIC UNDERGROUND CABLE
201	TRAFFIC_UG_PT	BLOCK	10 (red)	10 (red)	10 (red)	10 (red)	10 (red)	
202	TRAFFIC_UG_TX	TEXT	7 (white)	CONT.	GROUP 3	7 (white)	7 (white)	
203	UW_DIM	DIMENSION	7 (white)	CONT.	GROUP 3	7 (white)	7 (white)	WATER LINE DIMENSIONS
204	UW_LN 02 INCHES	2" WIDTH POLYLINE	140 (light blue)	WATER	DEFAULT	8 (Screening 80%)	140 (light blue)	
205	UW_LN 03 INCHES	3" WIDTH POLYLINE	140 (light blue)	140 (light blue)	140 (light blue)	140 (light blue)	140 (light blue)	
206	UW_LN 04 INCHES	4" WIDTH POLYLINE	140 (light blue)	140 (light blue)	140 (light blue)	140 (light blue)	140 (light blue)	



SECTION 1-E TABLE 1 LAYERS PROPERTIES

PUBLIC WORKS DEPARTMENT
1700 CONVENTION CENTER DR
MIAMI BEACH, FL, 33135

	LAYER NAME ABD =ABANDONED LN =LINE PRO=PROPOSED PT =POINT(block insertion) STA =STATION TX =TEXT	Object Type	Screen Display	Linetype	Lineweight (see GROUPS LINEWEIGHT apart)	Black / White Printing/Plotting (CMB Standard.ctb)	Color Printing/Plotting (CMB Standard Color.ctb)	Description
207	UW_LN 06 INCHES	8" WMDTH POLYLINE	140 (light blue)	140 (light blue)	140 (light blue)	140 (light blue)	140 (light blue)	
208	UW_LN 08 INCHES	8" WMDTH POLYLINE	140 (light blue)	140 (light blue)	140 (light blue)	140 (light blue)	140 (light blue)	
209	UW_LN 10 INCHES	10" WMDTH POLYLINE	140 (light blue)	140 (light blue)	140 (light blue)	140 (light blue)	140 (light blue)	
210	UW_LN 12 INCHES	12" WMDTH POLYLINE	140 (light blue)	140 (light blue)	140 (light blue)	140 (light blue)	140 (light blue)	
211	UW_LN 14 INCHES	12" WMDTH POLYLINE	140 (light blue)	140 (light blue)	140 (light blue)	140 (light blue)	140 (light blue)	
212	UW_LN 16 INCHES	16" WMDTH POLYLINE	140 (light blue)	140 (light blue)	140 (light blue)	140 (light blue)	140 (light blue)	
213	UW_LN 18 INCHES	18" WMDTH POLYLINE	140 (light blue)	140 (light blue)	140 (light blue)	140 (light blue)	140 (light blue)	
214	UW_LN 20 INCHES	20" WMDTH POLYLINE	140 (light blue)	140 (light blue)	140 (light blue)	140 (light blue)	140 (light blue)	
215	UW_LN 24 INCHES	24" WMDTH POLYLINE	140 (light blue)	140 (light blue)	140 (light blue)	140 (light blue)	140 (light blue)	
216	UW_LN 30 INCHES	30" WMDTH POLYLINE	140 (light blue)	140 (light blue)	140 (light blue)	140 (light blue)	140 (light blue)	
217	UW_LN 36 INCHES	36" WMDTH POLYLINE	140 (light blue)	140 (light blue)	140 (light blue)	140 (light blue)	140 (light blue)	
218	UW_LN_PRO 08 INCHES	2" WMDTH POLYLINE	141 (dark blue)	WATER	DEFAULT	7 (white)	141 (dark blue)	
219	UW_LN_PRO 10 INCHES	3" WMDTH POLYLINE	141 (dark blue)	141 (dark blue)	141 (dark blue)	141 (dark blue)	141 (dark blue)	
220	UW_LN_PRO 12 INCHES	4" WMDTH POLYLINE	141 (dark blue)	141 (dark blue)	141 (dark blue)	141 (dark blue)	141 (dark blue)	
221	UW_LN_PRO 14 INCHES	6" WMDTH POLYLINE	141 (dark blue)	141 (dark blue)	141 (dark blue)	141 (dark blue)	141 (dark blue)	
222	UW_LN_PRO 16 INCHES	8" WMDTH POLYLINE	141 (dark blue)	141 (dark blue)	141 (dark blue)	141 (dark blue)	141 (dark blue)	



SECTION 1-E TABLE 1 LAYERS PROPERTIES

PUBLIC WORKS DEPARTMENT
1700 CONVENTION CENTER DR.
MIAMI BEACH, FL, 33139

LAYER NAME ABD =ABANDONED LN =LINE PRO=PROPOSED PT =POINT(block insertion) STA =STATION TX =TEXT	Object Type	Screen Display	Linetype	Lineweight (see GROUPS LINEWEIGHT apart)	Black / White Printing/Plotting (CMB Standard.ctb)	Color Printing/Plotting (CMB Standard Color.ctb)	Description
223 UW_LN_PRO 18 INCHES	10" WIDTH POLYLINE	141 (dark blue)	141 (dark blue)	141 (dark blue)	141 (dark blue)	141 (dark blue)	
224 UW_LN_PRO 20 INCHES	12" WIDTH POLYLINE	141 (dark blue)	141 (dark blue)	141 (dark blue)	141 (dark blue)	141 (dark blue)	
225 UW_LN_PRO 24 INCHES	14" WIDTH POLYLINE	141 (dark blue)	141 (dark blue)	141 (dark blue)	141 (dark blue)	141 (dark blue)	
226 UW_LN_PRO 30 INCHES	16" WIDTH POLYLINE	141 (dark blue)	141 (dark blue)	141 (dark blue)	141 (dark blue)	141 (dark blue)	
227 UW_LN_PRO 36 INCHES	18" WIDTH POLYLINE	141 (dark blue)	141 (dark blue)	141 (dark blue)	141 (dark blue)	141 (dark blue)	
228 UW_LN TO BE ABD	POLYLINE	141 (dark blue)	WATER ABANDONED	DEFAULT	7 (white)	141 (dark blue)	
229 UW_LN_ABD	POLYLINE	140 (light blue)	WATER ABANDONED	DEFAULT	8 (Screening 60%)	140 (light blue)	
230 UW_LN_SERV 02 INCHES	20" WIDTH POLYLINE	140 (light blue)	WATER	DEFAULT	7 (white)	140 (light blue)	WATER SERVICE LINE
231 UW_LN_SERV 04 INCHES	24" WIDTH POLYLINE	140 (light blue)	WATER	DEFAULT	7 (white)	140 (light blue)	
232 UW_LN_SERV 06 INCHES	30" WIDTH POLYLINE	140 (light blue)	WATER	DEFAULT	7 (white)	140 (light blue)	
233 UW_LN_SERV_PRO 02 INCHES	36" WIDTH POLYLINE	141 (dark blue)	141 (dark blue)	141 (dark blue)	141 (dark blue)	141 (dark blue)	
234 UW_LN_SERV_PRO 04 INCHES	2" WMDH POLYLINE	141 (dark blue)	141 (dark blue)	141 (dark blue)	141 (dark blue)	141 (dark blue)	
235 UW_LN_SERV_PRO 06 INCHES	4" WMDH POLYLINE	141 (dark blue)	141 (dark blue)	141 (dark blue)	141 (dark blue)	141 (dark blue)	
236 UW_PT	6" WMDH POLYLINE	141 (dark blue)	WATER	DEFAULT	8 (Screening 60%)	141 (dark blue)	
237 UW_PT_PRO	2" WMDH POLYLINE	141 (dark blue)	WATER	DEFAULT	7 (white)	141 (dark blue)	
238 UW_SERV_PT	4" WMDH POLYLINE	140 (light blue)	WATER	DEFAULT	7 (white)	140 (light blue)	



SECTION 1-E TABLE 1 LAYERS PROPERTIES

PUBLIC WORKS DEPARTMENT
1700 CONVENTION CENTER DR.
MIAMI BEACH, FL, 33139

LAYER NAME ABD=ABANDONED LN =LINE PRO=PROPOSED PT =POINT(block insertion) STA =STATION TX =TEXT	Object Type	Screen Display	Linetype	Lineweight (see GROUPS LINEWEIGHT apart)	Black / White Printing/Plotting (CMB Standard.ctb)	Color Printing/Plotting (CMB Standard Color.ctb)	Description
239 UW_SERV_PT_PRO	6" WIDTH POLYLINE	141 (dark blue)	141 (dark blue)	141 (dark blue)	141 (dark blue)	141 (dark blue)	
240 UW_SERV_TX	BLOCK	141 (dark blue)	CONT.	GROUP 3	141 (dark blue)	141 (dark blue)	
241 UW_SERV_TX_PRO	BLOCK	140 (light blue)	CONT.	GROUP 3	150 (dark blue)	140 (light blue)	
242 UW_TX	TEXT	7 (white)	7 (white)	7 (white)	7 (white)	7 (white)	
243 UW_TX_PRO	BLOCK	7 (white)	7 (white)	7 (white)	7 (white)	7 (white)	
244 VIEW	TEXT	7 (white)	CONT.	GROUP 3	141 (dark blue)	7 (white)	VIEWS BOUNDARIES
245 WALL_LN	TEXT	7 (white)	CONT.	GROUP 3	150 (dark blue)	7 (white)	WALLS OUTLINE
246 WALL_LN_PRO	TEXT	7 (white)	CONT.	GROUP 3	7 (white)	7 (white)	
247 WALL_TX	TEXT	7 (white)	CONT.	GROUP 3	141 (dark blue)	7 (white)	
248 WALL_TX_PRO	TEXT	7 (white)	CONT.	GROUP 3	141 (dark blue)	7 (white)	
249 WWV_LN	POLYLINE	10 (red)	10 (red)	10 (red)	10 (red)	10 (red)	WHITEWAY-ORNAMENTAL & FLOOD LIGHTINGS
250 WWV_LN_PRO	POLYLINE	12 (red)	ELECTRIC	DEFAULT	7 (white)	12 (red)	
251 WWV_PT	BLOCK	10 (red)	10 (red)	10 (red)	10 (red)	10 (red)	
252 WWV_PT_PRO	BLOCK	12 (red)	CONT.	GROUP 3	7 (white)	12 (red)	
253 WWV_TX	TEXT	7 (white)	CONT.	GROUP 3	7 (white)	7 (white)	
254 WWV_TX_PRO	TEXT	7 (white)	CONT.	GROUP 3	7 (white)	7 (white)	







































LINETYPE

DISPLAY
(SCALE 1"=20')

COLOR

NAME









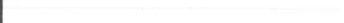



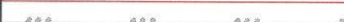

























FOUND IN LAYERS
(NOT ALL SHOWN FOR CLARITY)

	1 (RED)	CONTINUOUS	ANY
	2 (YELLOW)	CONTINUOUS	ANY
	3 (GREEN)	CONTINUOUS	ANY
	4 (CYAN)	CONTINUOUS	ANY
	5 (BLUE)	CONTINUOUS	ANY
	6 (MAGENTA)	CONTINUOUS	ANY
	7 (BLACK)	CONTINUOUS	ANY
	8 (GRAY)	CONTINUOUS	ANY
	9 (LIGHT GRAY)	CONTINUOUS	ANY
	10	ELECTRIC LINE	ELECT_OH_LN
	10	TRAFFIC LIGHT	TRAFF_OH_LN
	11	STREET LIGHT	LIGHT_LN (EXISTING)
	12	STREET LIGHT	LIGHT_LN_PRO
	40	CABLE_TV	CA_TV_OH_LN
	40	GAS	GAS_LN
	30	PHONE	TEL_OH_LN
	42	FORCEMAIN	SN_FM_LN 24 INCHES (EXISTING)
	34	FORCEMAIN	SN_FM_LN_PRO 24 INCHES (PROPOSED)
	42	SANITARY	SN_SEW_LN 24 INCHES (EXISTING)
	34	SANITARY	SN_SEW_LN_PRO 24 INCHES (PROPOSED)
	21	SANITARY	SN_SEW_LN_ABD
	44	CONTINUOUS	GRADE_LN
	62	CONTINUOUS	LANDSCAPE_PALM (EXISTING)
	80	CONTINUOUS	LANDSCAPE_PALM_PRO (PROPOSED)
	52	CONTINUOUS	ST_SEW_LN 08 INCHES (EXISTING)
	74	CONTINUOUS	ST_SEW_LN 08 INCHES (PROPOSED)
	52	STORM ABANDONED	ST_SEW_LN_ABD
	74	STORM ABANDONED	ST_SEW_LN TO BE ABD
	130	CONTINUOUS	ADA_LN
	132	CONTINUOUS	ADA_LN_PRO
	140	WATER	UW_LN 08 INCHES (EXISTING)
	141	CONTINUOUS	UW_LN_PRO 08 INCHES (PROPOSED)
	140	WATER ABANDONED	UW_LN_ABD (EXISTING ABANDONED)
	141	WATER ABANDONED	UW_LN_TO BE ABD (PROPOSED TO BE ABANDONED)
	201	CONTINUOUS	IRRIGATION_LN
	200	CONTINUOUS	IRRIGATION_LN_PRO
	150	CONTINUOUS	LOGO_SYMBOL
	169,221,14	CONTINUOUS	LOGO_SYMBOL (TEXT IN LOGO)

NOTES:

- 1—THIS PAGE PRINTED USING CMB STANDARD COLOR.CTB. FOUND IN F:\WORK\ALL\CAD-DWG\INITIAL DRAWINGS
- 2—LINETYPES FILE CMB acad.lin. FOUND IN F:\WORK\ALL\CAD-DWG\INITIAL DRAWINGS
- 3—THE WIDTH OF THE LINE INDICATES THE SIZE OF THE UTILITY (SEE LAYERS PROPERTIES)

CMB STANDARD LINETYPES AND COLORS AUTOCAD STANDARD COLORS
(F:\WORK\ALL\CAD-DWG\STANDARDS\INITIAL DRAWINGS\CMB ACAD.lin)

LINETYPE			
DISPLAY (SCALE 1"=20')	COLOR	NAME	FOUND IN LAYERS (NOT ALL SHOWN FOR CLARITY)
	1 (RED)	CONTINUOUS	ANY
	2 (YELLOW)	CONTINUOUS	ANY
	3 (GREEN)	CONTINUOUS	ANY
	4 (CYAN)	CONTINUOUS	ANY
	5 (BLUE)	CONTINUOUS	ANY
	6 (MAGENTA)	CONTINUOUS	ANY
	7 (BLACK)	CONTINUOUS	ANY
	8 (GRAY)	CONTINUOUS	ANY
	9 (LIGHT GRAY)	CONTINUOUS	ANY
	10	ELECTRIC LINE	ELECT_OH_LN
	10	TRAFFIC LIGHT	TRAFF_OH_LN
	11	STREET LIGHT	LIGHT_LN (EXISTING)
	12	STREET LIGHT	LIGHT_LN_PRO
	40	CABLE_TV	CA_TV_OH_LN
	40	GAS	GAS_LN
	30	PHONE	TEL_OH_LN
	42	FORCEMAIN	SN_FM_LN 24 INCHES (EXISTING)
	34	FORCEMAIN	SN_FM_LN_PRO 24 INCHES (PROPOSED)
	42	SANITARY	SN_SEW_LN 24 INCHES (EXISTING)
	34	SANITARY	SN_SEW_LN_PRO 24 INCHES (PROPOSED)
	21	SANITARY	SN_SEW_LN_ABD
	44	CONTINUOUS	GRADE_LN
	62	CONTINUOUS	LANDSCAPE_PALM (EXISTING)
	80	CONTINUOUS	LANDSCAPE_PALM_PRO (PROPOSED)
	52	CONTINUOUS	ST_SEW_LN 08 INCHES (EXISTING)
	74	CONTINUOUS	ST_SEW_LN 08 INCHES (PROPOSED)
	52	STORM ABANDONED	ST_SEW_LN_ABD
	74	STORM ABANDONED	ST_SEW_LN TO BE ABD
	130	CONTINUOUS	ADA_LN
	132	CONTINUOUS	ADA_LN_PRO
	140	WATER	UW_LN 08 INCHES (EXISTING)
	141	CONTINUOUS	UW_LN_PRO 08 INCHES (PROPOSED)
	140	WATER ABANDONED	UW_LN_ABD (EXISTING ABANDONED)
	141	WATER ABANDONED	UW_LN_TO BE ABD (PROPOSED TO BE ABANDONED)
	201	CONTINUOUS	IRRIGATION_LN
	200	CONTINUOUS	IRRIGATION_LN_PRO
	150	CONTINUOUS	LOGO_SYMBOL
	169,221,14	CONTINUOUS	LOGO_SYMBOL (TEXT IN LOGO)

CMB STANDARD LINETYPES AND COLORS AUTOCAD STANDARD COLORS
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3-THE WIDTH OF THE LINE INDICATES THE SIZE OF THE UTILITY (SEE LAYERS PROPERTIES)

COLOR CODE FOR GROUND MARKING UNDERGROUND UTILITIES LINES

GROUP 1

0.000 inches
0.002 inches
0.004 inches
0.005 inches

GROUP 2

0.006 inches
0.007 inches
0.008 inches
0.010 inches

GROUP 3

0.012 inches
0.014 inches
0.016 inches

GROUP 4

0.020 inches
0.021 inches
0.024 inches

GROUP 5

0.028 inches
0.031 inches
0.035 inches

GROUP 6

0.039 inches
0.042 inches
0.047 inches

GROUP 7

0.055 inches
0.062 inches
0.079 inches
0.083 inches



WHITE—PROPOSED
EXCAVATION



PINK—TEMPORARY
SURVEY MARKING



RED—ELECTRIC POWER
LINES, CABLES, CONDUIT
AND LIGHTING CABLES



YELLOW—GAS,OIL,STEAM,PETROLEUM
OR GASEOUS MATERIALS



ORANGE—COMMUNICATION,
ALARM OR SIGNAL LINES,
CABLES OR CONDUITS



BLUE—POTABLE WATER



PURPLE—RECLAIMED
WATER, IRRIGATION AND
SLURRY LINES



GREEN—SEWERS AND
DRAIN LINES

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- 3—THE WIDTH OF THE LINE INDICATES THE SIZE OF THE UTILITY (SEE LAYERS PROPERTIES)



MIAMI BEACH
PUBLIC WORKS DEPARTMENT
1700 CONVENTION CENTER DRIVE, MIAMI BEACH, FL 33139

APPROVED

12/2006

REVISED

TITLE:

Section 1-E Table 1
Lineweight & Code Colors

Sheet

3 of 3

TABLE 2

FILE NAME GUIDE

TABLE 2

FILE NAMING GUIDE	
FILES NAMES	
TYPICAL	PK-2007A(COLLINS AVE. 5TH TO 17TH ST.)
FIRST ITEM	DISCIPLINE KEY *
SECOND ITEM	YEAR OF THE PROJECT *
THIRD ITEM	ONE OR TWO DIGITS ARE * REQUIRED FOR ALL LETTERS AS NEEDED
FOUTH ITEM	LOCATION OF THE PROJECT *
* WILL BE PROVIDED BY PUBLIC WORKS	
DRAWING NUMBER	
SEE SECTION 1 E, ITEM 22 FOR THE CONVENTIONS TO BE USED WHEN ESTABLISHING THE DRAWING NAME (G: GENERAL; HS: HARDSCAPE;WM: WATER MAIN, ETC.)	
SHEET NUMBER	
1 OF TOTAL PAGES	

TABLE 2

DISCIPLINE KEY	
BIDS	BD
BUILDING, ADDITION, RENOVATIONS, REPAIRS DEMOLITION AND MEMORIALS	BG
BRIDGES	BR
BULKHEAD, SEAWALLS, GROYNES, WQTERWAYS, SOUNDINGS, SAILPORTS AND RAMPS	BS
GARBAGE CHARTS	GC
DOCK FACILITIES, PIERS,WHARVES, MARINAS, BREAKWATER, SAILPORTS, RAMPS	DF
GENERAL	G
HIGHWAYS, STREETS, ALLEYS, CAUSEWAYS, GRADING AND PAVING, RIGHT OF WAYS, ISLAND	HS
MISCELLANEOUS	ML
PARKING AREAS, PARKING GARAGES	PA
PARKS, GOLF COURSES, LANDSCAPED AREAS, RECREATIONAL FACILITIES, VITA COURSES, BICYCLE PATHS	PK
PUMP STATIONS, FORCE MAINS, SYPHONS	PS
SIDEWALKS, DRIVEWAYS, PEDESTRIAN TUNNELS, HANDICAP RAMP, WALKS, MALLS	SK
STANDARDS DETAILS	SD
SURVEYS, MAPS, PLATS, UTILITIES, ENCROACHMENTS, EASEMENTS	SM
SANITARY SEWER AND LATERALS	SN
STORWATER	ST
GAS	UG
POWER AND LIGHT	UP
TELEPHONE	UT
WATER MAIN	UW
WHITEWAY, ORNAMENTAL AND FLOOD LIGHTING	WW
CROSS SECTIONS, PROFILES AND GRADES	XP

TABLE 3

GENERAL NOTES, ABBREVIATIONS AND SYMBOL GUIDE

GENERAL NOTES:

1. ALL APPLICABLE PERMITS MUST BE OBTAINED PRIOR TO COMMENCEMENT OF CONSTRUCTION.
2. ALL MATERIALS AND CONSTRUCTION UNDER THIS PROJECT SHALL BE IN STRICT ACCORDANCE WITH THE REQUIREMENTS OF THE CITY OF MIAMI BEACH, PUBLIC WORKS DEPARTMENT.
3. THE LOCATIONS AND ELEVATIONS OF EXISTING UTILITIES AS SHOWN ON THE APPROVED PLANS ARE TO BE VERIFIED IN THE FIELD BY THE CONTRACTOR. THE CONTRACTOR SHALL NOTIFY THE CITY ENGINEER OF ANY DISCREPANCY OR VARIATION FROM THE APPROVED DRAWINGS.
4. THE CONTRACTOR SHALL BE RESPONSIBLE AT ALL TIMES THROUGHOUT THE DURATION OF CONSTRUCTION FOR THE PROTECTION OF EXISTING AND NEWLY INSTALLED UTILITIES AND IMPROVEMENTS FROM DAMAGE, DISRUPTION OF SERVICE, OR DESTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TAKING NECESSARY MEASURES TO PROTECT THE HEALTH, SAFETY, AND WELFARE OF THOSE PERSONS HAVING ACCESS TO THE WORK SITE.
5. THE CONTRACTOR SHALL MAINTAIN A CURRENT APPROVED SET OF CONSTRUCTION PLANS ON SITE. THE PLANS ARE TO BE MADE AVAILABLE TO THE ENGINEERING INSPECTOR OF THE CITY OF MIAMI BEACH OR HIS DESIGNEE UPON REQUEST.
6. THE CONTRACTOR SHALL PROVIDE ACCESS AND ASSISTANCE TO THE CITY ENGINEER OR HIS DESIGNEE TO MAKE INSPECTIONS, AS NECESSARY, DURING CONSTRUCTION.
7. NO DEVIATION FROM APPROVED PLANS SHALL BE PERMITTED WITHOUT THE WRITTEN CONSENT OF THE CITY ENGINEER OR HIS DESIGNEE.
8. CONTRACTOR MUST CALL CITY OF MIAMI BEACH, PUBLIC WORKS DEPARTMENT TO OBTAIN A RIGHT OF WAY PERMIT AND ARRANGE A PRE-CONSTRUCTION MEETING 48 HOURS PRIOR TO START OF CONSTRUCTION.
9. ENGINEERING PERSONNEL WILL INSPECT ALL FACILITIES APPROVED BY THEIR OFFICE. ALL OTHER REQUIREMENTS OF THE PERMITTING AGENCIES SHALL BE IN ACCORDANCE WITH THEIR STANDARDS.
10. TRENCH EXCAVATIONS IN EXCESS OF 5 FEET DEEP SHALL COMPLY WITH THE TRENCH SAFETY ACT AS PER O.S.H.A. STANDARD 29 CFR 1926.650 SUBPART P IN STATUTES. THE TRENCHES AND DITCHES SHALL BE PROTECTED IN ACCORDANCE WITH RULE 38c 43.02 FAC AND 6A-1,095(2).
11. ERECTION OR INSTALLATION OF APPROPRIATE SAFETY AND WARNING DEVICES SHALL BE REQUIRED DURING THE COURSE OF CONSTRUCTION. SAID DEVICES SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE FLORIDA DEPARTMENT OF TRANSPORTATION'S "MANUAL ON TRAFFIC CONTROL AND SAFETY PRACTICES" AND THE MIAMI-DADE COUNTY PUBLIC WORKS MANUAL.
12. PLANS AND SPECIFICATIONS REQUIRE THAT COMPACTED BACKFILL BE PLACED ALONGSIDE OF AND OVER ALL UTILITIES. THE CITY ENGINEER REQUIRES THAT COMPACTION TESTS BE TAKEN TO VERIFY BACKFILL COMPACTION. THE COST OF SUCH COMPACTION TESTS WILL BE BORNE BY THE CITY. THE RETESTING COST, DUE TO FAILURE OF THE COMPACTION TEST, WILL BE PAID BY THE CONTRACTOR.
13. WORK PERFORMED UNDER THIS PROJECT WILL NOT BE CONSIDERED COMPLETE UNTIL THE FOLLOWING DOCUMENTS ARE RECEIVED BY THE CITY OF MIAMI BEACH, PUBLIC WORKS DEPARTMENT.
 - A. CONTRACTOR'S, SUBCONTRACTOR'S AND SUPPLIER'S WAIVER AND RELEASE OF LIEN.
 - B. CONTRACTOR'S LETTER OF WARRANTY (I.E. LETTER OF AGREEMENT).
 - C. "AS BUILT" - FOUR (4) ORIGINALS 22"x34" & 11"x17" SIGNED AND SEALED BY A FLORIDA REGISTERED LAND SURVEYOR SHOWING SPECIFIC LOCATION, DEPTH, ETC. OF ALL CITY FACILITIES TOGETHER WITH A DIGITAL COPY IN AUTOCAD LAST VERSION 2011 OF THE "AS-BUILT" DRAWINGS USING STATE PLANE FLORIDA EAST FIPS 0901 FEET MAP 1983 (FEET).
14. THESE PLANS ARE PREPARED FROM UTILITY INFORMATION OF PREVIOUS AND RECENT AVAILABLE RECORDS. THE DESIGNER IS NOT LIABLE FOR ANY UTILITY CONFLICTS AND UNKNOWNNS THAT ARE DISCOVERED DURING CONSTRUCTION. CONTRACTOR SHALL FIELD VERIFY EXISTING UTILITIES. IN CASE THAT A CONFLICT ARISES, THE ENGINEER OF RECORDS OR HIS DESIGNEE SHALL BE INFORMED TO MAKE THE APPROPRIATE DESIGN CHANGES.



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GENERAL NOTES

GN1a

GENERAL NOTES:

15. FOR SPECIFICATIONS, PLEASE REFER TO THE CITY OF MIAMI BEACH PUBLIC WORKS MANUAL.
16. DUE TO SOIL CONDITIONS, HIGH WATER TABLE AND PROTECTION OF ROADWAY, UTILITIES AND EXISTING LANDSCAPING, SHORING WILL BE REQUIRED FOR TRENCH AND STRUCTURE CONSTRUCTION. THE CONTRACTOR SHALL SUBMIT THE PROPOSED METHOD OF CONSTRUCTION TO THE ENGINEER FOR APPROVAL AT THE PRECONSTRUCTION MEETING. THE COST OF SHORING WILL BE INCLUDED IN THE COSTS OF STRUCTURE AND PIPES. DEWATERING MAY BE REQUIRED AND SHALL BE INCLUDED IN THE COSTS OF STRUCTURES AND PIPES.
17. CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING TURBIDITY BARRIER AT ALL OUTFALLS SUBJECT TO POTENTIAL DISCHARGE DURING CONSTRUCTION. SEE FDOT INDEX No 104. CONTRACTOR SHALL BE RESPONSIBLE FOR FULL KNOWLEDGE OF ALL APPLICABLE REGULATORY REQUIREMENTS AND CORRECT ANY SILTATION OR OTHER DAMAGE TO THE DRAINAGE SYSTEM.
18. CONTRACTOR SHALL PROVIDE MAINTENANCE OF TRAFFIC DURING CONSTRUCTION IN ACCORDANCE WITH ALL STATE, COUNTY AND LOCAL REQUIREMENTS.
19. MAINTENANCE OF TRAFFIC SHALL BE IN ACCORDANCE WITH CURRENT FDOT STANDARD INDEXES (600 SERIES), AND THE "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS" AND ALL OTHER STATE, COUNTY AND LOCAL REQUIREMENTS.
20. WHEN POWER POLES ARE ADJACENT TO ANY PROPOSED UTILITY, THE CONTRACTOR SHALL PROVIDE PROPER SHORING OR OTHER SUITABLE SUPPORT DURING CONSTRUCTION. THE SHORING AND SUPPORT METHODS SHALL BE APPROVED BY THE UTILITY COMPANY ENGINEERING DEPARTMENT.
21. ALL DEFECTIVE WORK NOT ACCEPTED BY THE CITY ENGINEER OR HIS DESIGNEE, OR BY ANY GOVERNMENT PERMITTING AGENCY SHALL BE IMMEDIATELY REPAIRED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.
22. CONTRACTOR SHALL CONTACT PWD TO INSPECT METERS AND BOXES AHEAD OF CONSTRUCTION TO DETERMINE WHETHER REPLACEMENT IS NECESSARY.
23. ELEVATIONS ARE REFERRED TO NAVD 88, BASED ON A _____ BENCH MARK
NO. _____ ELEVATION: _____ (NGV DATUM) = _____ (NAVD 88) LOCATOR: _____
NAME: _____ ELEVATION: _____
LOCATED AT _____
24. PROVIDE RESTRAINING BY THE USE OF FIELD LOCK GASKET ON TYTON JOINT PIPE AND AS MANUFACTURED BY U.S. PIPE OR EQUAL.
25. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING UNINTERRUPTED WATER SERVICE DURING THE CONSTRUCTION OF THE TIE-IN CONNECTION OF ALL PROPOSED WATER SYSTEMS TO ANY EXISTING WATER SERVICE LINES. ABANDONMENT SHALL NOT OCCUR UNTIL THE PROPOSED WORK HAS BEEN APPROVED AND ACCEPTED FOR OPERATION BY THE ENGINEER OF RECORD AND THE CITY OF MIAMI BEACH PUBLIC WORKS DEPARTMENT, WATER DIVISION. CONTRACTOR SHALL REQUEST FROM CMB 48 HOURS PRIOR FOR WATER MAIN SHUTDOWN.
26. ALL WATER METER BOXES DAMAGED DURING CONSTRUCTION SHALL BE REPLACED WITH CITY ISSUED WATER METER BOXES AND PAID FOR BY CONTRACTOR.
27. ALL PROPOSED WATER METERS SHOULD BE A MINIMUM OF A 2-INCH SERVICE.
28. CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY THE ACTUAL NUMBER OF EXISTING WATER SERVICES TO BE CONNECTED TO THE PROPOSED WATER MAIN.
29. ALL DUCTILE IRON PIPE SHALL BE INSTALLED IN ACCORDANCE WITH ANSI/AWWA C 600 LATEST REVISIONS WITH A DETECTOR TAPE. DETECTOR TAPE SHALL BE 3" WIDE BLUE TAPE FOR WATER MAIN WITH A METALLIC FOIL CORE LAMINATED BETWEEN TWO LAYERS OF PLASTIC FILM. THE WORKS "CAUTION WATER LINE BURIED BELOW" ON THE UPPER SIDE OF THE PIPE SHALL BE PRINTED AT 30" INTERVALS ALONG THE TAPE. TAPE SHALL BE PLACED 18" BELOW GRADE ABOVE ALL WATER MAINS AND SERVICES OR AS RECOMMENDED BY MANUFACTURER NON-METALLIC TAPE SHALL BE USED ABOVE DUCTILE IRON PIPE.

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GENERAL NOTES

GN1b

GENERAL NOTES:

30. CONTRACTOR WILL BE RESPONSIBLE TO COORDINATE WITH HRS (DEPT. OF HEALTH) THE WATER SAMPLING AND BACTERIOLOGICAL TESTS AND FINAL CERTIFICATION FROM HRS.
31. TAPPING SLEEVE VALVE TO BE PRESSURE TESTED AT 125 PSI FOR TWO (2) HOURS BEFORE TAPPING.
32. THRUST BLOCK NOT ALLOWED UNLESS SPECIFICALLY APPROVED BY THE CITY ENGINEER. USE MEGALUGS OR CLASS 316 STAINLESS STEEL RESTRAINING RODS.
33. CONTRACTOR SHALL EXERCISE CARE WHEN WORKING NEAR EXISTING CLAY PIPING.
34. EXISTING FIRE HYDRANTS SHALL REMAIN IN SERVICE UNTIL THE NEW MAIN IS PLACED IN SERVICE. ONCE THE NEW MAIN IS IN SERVICE, THE OLD HYDRANT SHALL BE COVERED AND TAGGED WITH A SIGN INDICATING "OUT OF SERVICE" UNTIL IT IS REMOVED BY THE CONTRACTOR.
35. NPDES BMP FOR SEDIMENTATION AND EROSION WORK MUST BE STRICTLY FOLLOWED DURING AND AFTER CONSTRUCTION.
36. PIPES SHALL BE INSTALLED IN THE DRY.
37. ALL D.I. PIPE SHALL BE THICKNESS CLASS 52 AND SHALL BE POLYWRAPPED AS PER W57.
38. ALL RELATED HARDWARE FOR RESTRAINING RODS TO BE STAINLESS STEEL CLASS 316.
39. A CONCRETE SLAB SHALL BE INSTALLED OVER ANY PIPE INSTALLED WITH LESS THAN 30" OF COVER AS PER STANDARD DETAIL S551.
40. ELEVATIONS ON PLANS REFER TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
41. THE CONTRACTOR SHALL BE GOVERNED BY THE LATEST APPLICABLE PORTIONS OF THE F.D.O.T. DESIGN STANDARDS, AND THE F.D.O.T. STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND SUPPLEMENTS THERE TO IF NOTED IN THE SPECIAL PROVISIONS FOR THIS PROJECT.
42. THE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANIES IN THE PROJECT AREA BEFORE THE START OF CONSTRUCTION. SEE THE UTILITY CONTACT INFORMATION TABLE FOR CONTACT NUMBERS.
43. ANY DAMAGED PUBLIC OR PRIVATE PROPERTY BY THE CONTRACTOR SHALL BE RESTORED TO PREEXISTING CONDITIONS OR BETTER AT NO EXPENSE TO THE OWNER.
44. ALL CONSTRUCTION DEBRIS SHALL BE PROPERLY DISPOSED OF OFFSITE AT THE CONTRACTOR'S EXPENSE.
45. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL COMPLY WITH FLORIDA STATUTE 553.851 FOR THE PROTECTION OF UNDERGROUND GAS LINES.
46. ERECTION OR INSTALLATION OF APPROPRIATE SAFETY AND WARNING DEVICES SHALL BE REQUIRED DURING THE COURSE OF CONSTRUCTION. SAID DEVICES SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE FLORIDA DEPARTMENT OF TRANSPORTATION'S "MANUAL OF TRAFFIC CONTROL AND SAFETY PRACTICES" AND THE MIAMI-DADE COUNTY PUBLIC WORKS MANUAL.
47. ALL EXISTING UTILITIES, MAN HOLE COVERS, ELECTRICAL BOXES, VALVE BOXES, METER BOXES, DRAINAGE STRUCTURES, ETC. WITHIN PROPOSED AREAS OF IMPROVEMENTS SHALL BE ADJUSTED TO GRADE ELEVATION, UNLESS OTHERWISE NOTED.
48. CONTRACTOR SHALL REPLACE ALL UTILITY BOXES/COVERS DAMAGED DURING CONSTRUCTION. CONTRACTOR SHALL NOTE THE CONDITION OF WATER METER BOXES BEFORE STARTING WORK. IF EXISTING WATER METER BOXES ARE DAMAGED, CONTACT THE CITY OF MIAMI BEACH FOR REPLACEMENT.
49. CONTRACTOR SHALL USE A STREET SWEEPER (USING WATER) OR OTHER EQUIPMENT CAPABLE OF CONTROLLING AND REMOVING DUST. APPROVAL OF THE USE OF SUCH EQUIPMENT IS CONTINGENT UPON ITS DEMONSTRATED ABILITY TO DO THE WORK.



GENERAL NOTES:

50. THE COLOR OF THE DETECTABLE WARNINGS ON CONCRETE OF COLORS OTHER THAN MIAMI BEACH RED, COORDINATE WITH THE PUBLIC WORKS DEPARTMENT FOR APPROPRIATE COLOR AND CONTRAST.
51. ALL SIGNING AND PAVEMENT MARKINGS INSTALLED AS PART OF THESE PLANS SHALL CONFORM TO THE 2009 EDITION OF THE FEDERAL HIGHWAY ADMINISTRATION (FHWA) MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, FLORIDA DEPARTMENT OF TRANSPORTATION DESIGN STANDARDS. ALL SIGN PANELS SHALL BE FABRICATED TO COMPLY WITH THE 2004 EDITION OF THE FEDERAL HIGHWAY AND ADMINISTRATION STANDARD HIGHWAY SIGNS.
52. MATCH EXISTING PAVEMENT MARKINGS AT THE BEGINNING AND THE END OF THE PROJECT WITHOUT JOGS OR OFFSETS.
53. INCORRECTLY PLACED (THERMOPLASTIC OR) PAINT MARKINGS OVER ASPHALT PAVEMENT WILL BE REMOVED BY MILLING AND REPLACING THE ASPHALT PAVEMENT A MINIMUM WIDTH 18 IN. AT THE CONTRACTOR'S EXPENSE. THE ENGINEER MAY APPROVE AN ALTERNATE METHOD IF IT CAN BE DEMONSTRATED TO COMPLETELY REMOVE THE MARKINGS WITHOUT DAMAGING THE ASPHALT.

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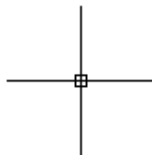
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GENERAL NOTES

GN1d

DERM NOTES ON WATER-SEWER INSTALLATION:

1. A HORIZONTAL DISTANCE OF AT LEAST 6 FEET, AND PREFERABLY 10 FEET (OUTSIDE TO OUTSIDE), SHALL BE MAINTAINED BETWEEN GRAVITY OR PRESSURE SEWER PIPES AND WATER PIPES. THE MINIMUM HORIZONTAL SEPARATION CAN BE REDUCED TO 3 FEET FOR VACUUM-TYPE SEWERS OR FOR GRAVITY SEWERS WHERE THE BOTTOM OF THE SEWER PIPE IS AT LEAST 6 INCHES BELOW THE BOTTOM OF THE WATER PIPE.
WHEN THE ABOVE SPECIFIED HORIZONTAL DISTANCE CRITERIA CANNOT BE MET DUE TO AN EXISTING UNDERGROUND FACILITY CONFLICT, SMALLER SEPARATIONS ARE ALLOWED IF:
 - a-THE SEWER PIPES ARE DESIGNED AND CONSTRUCTED EQUAL TO THE WATER PIPE AND PRESSURE TESTED AT 150 PSI.
 - b-THE SEWER IS ENCASED IN A WATERTIGHT CARRIER PIPE OR CONCRETE.
 - c-THE TOP OF THE SEWER IS AT LEAST 18 INCHES BELOW THE BOTTOM OF THE WATER PIPE.
2. A VERTICAL DISTANCE OF AT LEAST 12 INCHES (OUTSIDE TO OUTSIDE) SHALL BE MAINTAINED BETWEEN ANY WATER AND SEWER MAINS WITH SEWER PIPES PREFERABLY CROSSING UNDER WATER MAINS. THE MINIMUM VERTICAL SEPARATION CAN BE REDUCED TO 6 INCHES FOR VACUUM-TYPE SEWERS OR FOR GRAVITY SEWERS WHERE THE SEWER PIPE IS BELOW THE WATER MAIN. THE CROSSING SHALL BE ARRANGED SO THAT ALL WATER MAIN JOINTS ARE AT LEAST 6 FEET FROM ALL JOINTS IN GRAVITY AND PRESSURE SEWER PIPES. THE DISTANCE CAN BE REDUCED TO 3 FEET FOR VACUUM-TYPE SEWERS. WHEN THE ABOVE SPECIFIED VERTICAL DISTANCE CRITERIA CANNOT BE MET DUE TO AN EXISTING UNDERGROUND FACILITY CONFLICT, SMALLER SEPARATIONS ARE ALLOWED IF:
 - a-THE SEWER PIPES ARE DESIGNED AND CONSTRUCTED EQUAL TO THE WATER PIPE AND PRESSURE TESTED AT 150 PSI.
 - b-THE SEWER IS ENCASED IN A WATERTIGHT CARRIER PIPE OR CONCRETE.
3. IN HIGHLY CONGESTED AREAS, WHERE EITHER WATER OR SEWER FACILITIES ARE EXISTING AND THE SEPARATION REQUIREMENTS CANNOT BE MET, SPECIAL CONSIDERATION MAY BE GIVEN SUBJECT TO SUBMITTAL OF DOCUMENTATION SHOWING THAT THE PROPOSED ALTERNATIVE WILL RESULT IN AN EQUIVALENT LEVEL OF RELIABILITY AND PUBLIC HEALTH PROTECTION.
4. THE CONTRACTOR SHALL VERIFY NATURE, DEPTH, AND CHARACTER OF EXISTING UNDERGROUND UTILITIES PRIOR TO START OF CONSTRUCTION.
5. ALL OTHER PUBLIC OR PRIVATE UTILITY FACILITIES SHALL BE CONSTRUCTED AT LEAST 5 FEET FROM ANY WATER AND SEWER MAIN AS MEASURED FROM THE OUTSIDE BELL OF THE WATER OF THE UTILITY PIPE.
6. WHEN THE 5 FEET SEPARATION BETWEEN PROPOSED AND EXISTING LINE IS NOT POSSIBLE, THE CONTRACTOR SHALL HAND DIG OR EXPOSE THE WATER AND SEWER PIPES BEFORE PROCEEDING WITH POWER EQUIPMENT EXCAVATION.
7. IN NO CASE SHALL A CONTRACTOR INSTALL UTILITY PIPES, CONDUITS, CABLES, ETC. IN THE SAME TRENCH PARALLEL AND ABOVE AN EXISTING WATER OR SEWER PIPE EXCEPT WHERE THEY CROSS. ANY DEVIATION FROM NOTES 6, 7 AND 8 SHALL BE APPROVED IN WRITING BY THE RESPONSIBLE WATER AND SEWER UTILITY.
8. A NON-RESETTABLE ELAPSED TIME METER SHALL BE INSTALLED AT EACH PUMP TO RECORD THE TOTAL NUMBER OF OPERATING HOURS OF THE STATION.



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DERM NOTES

GN1e

ENGINEER'S NOTES:

1. EXISTING UNDERGROUND UTILITIES: INFORMATION SHOWN ON THE DRAWINGS AS TO THEIR LOCATION AND CHARACTER HAS BEEN PREPARED FROM THE MOST RELIABLE DATA AVAILABLE TO THE ENGINEER; THE ACCURACY OF THIS INFORMATION IS NOT GUARANTEED. THE CONTRACTOR SHALL CONTACT SUNSHINE STATE ONE CALL OF FLORIDA, INC.(1-800-432-4770) TWO (2) BUSINESS DAYS PRIOR TO ANY EXCAVATION TO DETERMINE SAID LOCATIONS AND THE LOCATIONS OF RECENT ADDITIONS TO THE SYSTEMS NOT SHOWN. EXTREME CAUTION SHALL BE EXERCISED BY THE CONTRACTOR TO ELIMINATE ANY POSSIBILITY OF DAMAGE TO UTILITIES DURING CONSTRUCTION. THE LOCATION AND CHARACTER OF ALL UTILITIES SHALL BE VERIFIED AND THE OWNER'S REPRESENTATIVE NOTIFIED OF ANY CONFLICT THAT MIGHT OCCUR.
2. ALL EXISTING GRASSED AREAS DAMAGED AS A RESULT OF CONSTRUCTION ACTIVITIES SHALL BE SODDED COMPLETELY AS DIRECTED BY THE CONSTRUCTION MANAGER AT NO ADDITIONAL COST TO THE OWNER.
3. PROTECT MATERIALS AND EQUIPMENT ON SITE FROM WEATHER, DUST, AND DEBRIS AT ALL TIMES, AND AVOID THE CREATION OF NUISANCE OR HAZARD IN THE SURROUNDING AREA.
4. UNSCHEDULED ITEMS SHALL BE RESTORED TO THEIR ORIGINAL DESIGN AND FUNCTION AT CONTRACTOR'S EXPENSE.
5. WHERE PAVEMENT DEMOLITION IS REQUIRED, THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION TO PROTECT AND PREVENT DAMAGE TO ADJACENT STRUCTURES AND PAVEMENTS TO REMAIN. LIMITS OF PAVEMENT DEMOLITION SHALL BE PERFORMED IN A NEAT, STRAIGHT LINE BY SAW CUTTING.
6. EXISTING BENCHMARKS LOCATED WITHIN THE LIMITS OF CONSTRUCTION SHALL NOT BE DISTURBED. IN THE EVENT THAT THE BENCHMARKS ARE DISTURBED OR DESTROYED, THEY SHALL BE REPLACED UPON COMPLETION OF THE PROJECT.
7. ADJUSTMENT AND CLEANING: CLEAN DEBRIS FROM AREAS OF DEMOLITION LEAVING AREA SUITABLE FOR WORK.
8. FALL MATERIALS RESULTING FROM DEMOLITION WORK SHALL BECOME THE PROPERTY OF THE CONTRACTOR. REMOVE FROM SITE AND DISPOSE OF THESE MATERIALS IN A MANNER AND LOCATION APPROVED BY MIAMI-DADE COUNTY REGULATIONS.

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ENGINEER'S NOTES

GN1f

DESCRIPTION	ABBREVIATIONS / ACRONYMS
ABUTTING	ABUT.
ACRES	AC
ADDITION	ADD.
ADJACENT OR ADJOINING	ADJ.
ALONG	ALG.
ALSO KNOWN AS	AKA
APPROACH	APR.
APPROACH SLAB	APR.SL.
APPROXIMATE	APPROX. or \approx
ARC LENGTH	L.
ASPHALT	ASPH.
AVENUE	AVE or AV
BACK OF CURB	BC
BACK OF SIDEWALK	BSW
BASE LINE	BL or B/L
BEGINNING	BEG.
BELL SOUTH TELECOMMUNICATIONS	BELLS
BENCH MARK	BM
BETWEEN	BETW.
BISCAYNE	BISC.
BLACK STEEL ENAMEL	BSE
BLOCK	BLK.
BOUNDARY	BDRY.
BOUNDED	BDED.
BRIDGE	BR.
BUILDING	BLDG.
BULKHEAD	BLKHD.
BUTTERFLY VALVE	BV
CABLE TELEVISION	CATV
CANAL	CAN.
CAST IRON	CI
CAST IRON PIPE	CIP
CATCH BASIN	CB
CENTER	CTR.
CENTER LINE	CL or C/L

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MIAMI BEACH
PUBLIC WORKS DEPARTMENT
1700 CONVENTION CENTER DRIVE, MIAMI BEACH, FL 33139

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**ABBREVIATIONS AND
ACRONYMS**

GN2a

SHEET 1 OF 6

DESCRIPTION	ABBREVIATIONS / ACRONYMS
CHAIN LINK FENCE	CLF
CLEARANCE	CL.
CONCRETE	CONC.
CONCRETE BLOCK STRUCTURE	CBS
CONCRETE MONUMENT	CM
CONTIGUOUS	CONTIG.
CONTINUE	CONT.
CORNER	COR.
COUNTY	CTY.
COURT	CT
CURB AND GUTTER	C&G
DEGREE	DEG. or °
DIAMETER	DIA. or Ø
DIMENSION	DIM.
DISTANCE	DIST.
DOWN	DN.
DRAWING	DWG.
DRILL HOLE	DH
DRIVE	DR.
DRIVEWAY	DRWY.
DUCTILE IRON	DI
DUCTILE IRON PIPE	DIP
EASEMENT	EASMT.
EAST	E.
EAST LINE	E/L
EDGE OF PAVEMENT	EOP
ELECTRICAL	ELECT.
ELECTRICAL MANHOLE	ELECTMH
ELECTRICAL PULL BOX	ELECTPB
ELEVATION	ELEVATION
ENCROACHMENT	ENC.
EXISTING	EXIST.
EXPRESSWAY	EXPWY.
EXTENDED	EXTD.
EXTENDING	EXTG.

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**ABBREVIATIONS AND
ACRONYMS**

GN2b

SHEET 2 OF 6

DESCRIPTION	ABBREVIATIONS / ACRONYMS
EXTENSION	EXTN.
FEDERAL	FED.
FEET	FT or '
FIRE HYDRANT	FH
FLORIDA EAST COAST RAILROAD	FEC.RR.
FLORIDA POWER & LIGHT	FPL
FLOW LINE	FL
FORCE MAIN	FM
FORMERLY KNOWN AS	FKA
FOUND	FD.
FOUND IRON PIPE	FD. IP
GARDEN	GDN.
GAS LINE	GASLN
GATE VALVE	GV
GOVERNMENT	GOVT.
HIGH DENSITY POLYETHYLENE PIPE	HDPE
HIGH WATER LINE	HWL
HIGHWAY	HWY.
HOMEUSE CONNECTION	HC
HORIZONTAL	HORIZ.
INTEREST	INT.
INVERT	INV.
IRON PIPE	IP
ISLAND	ISL.
LANE	LN
LATERAL	LAT.
LEFT	LT.
LINE	LN
LIGHT	LT
LYING	LYG.
MANHOLE	MH
MAXIMUM	MAX.
MEANDERING	MEAND.
MECHANICAL JOINT	MJ
MINIMUM	MIN.

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DESCRIPTION	ABBREVIATIONS / ACRONYMS
MINUTES	MINT
MORE OR LESS	M/L
NAIL & DISC	N&D
NAIL & WASHER	N&W
NON REINFORCED CONCRETE PIPE	NRCP
NON RISING STEM	NRS
NORTH	N.
NORTH LINE	N/L
NOW ASSESSED WITH	N/A/W
OUTSIDE DIAMETER	OD
PARALLEL	PAR.
PARK	PK
PARKWAY	PKWY.
PAVEMENT	PAVT.
PLAIN END	PLE
POINT	PT
POINT OF BEGINNING	POB
POINT OF COMMENCE	POC
POINT OF COMPUND CURVATURE	PCC
POINT OF CURVATURE	PC
POINT OF INSERTION	PI
POINT OF REVERSE CURVATURE	PRC
POINT OF TANGENCY	PT
POLYVINYL CHLORIDE	PVC
PORTION	PORT.
POWER POLE	PP
PROPERTY LINE	PL or P/L
PROPOSED	PROP.
PULL BOX	PB
RADIUS	R.
RAILROAD	R.R.
REDUCER	RED.
REFERENCE	REF.
REINFORCED CONCRETE PIPE	RCP
REVISED	REV.

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ACRONYMS**

GN2d
SHEET 1 OF 1

DESCRIPTION	ABBREVIATIONS / ACRONYMS
RIGHT	RT.
RIGHT ANGLES	R/A
RIGHT OF WAY	ROW or R/W
RIGHT OF WAY LINE	R/W/L
RIM ELEVATION	RIM
RIPARIAN RIGHTS	RIP. RTS.
ROAD	RD
SANITARY	SN or SAN.
SANITARY LINE	SNLN
SANITARY MANHOLE	SNMH
SECTION	SECT.
SERVICE	SERV.
SANITARY SEWER	SS
SIDEWALK	SWK.
SLAB	SL.
SOUTH	S.
SOUTH LINE	S/L
SOUTHERN BELL TELEPHONE	SBT
STATE ROAD	SR
STATION	STA.
STORM	ST
STORMWATER SEWER	STS
STORMWATER LINE	STLN
STORMWATER MANHOLE	STMH
STREET	ST.
STREET LIGHT	ST.LT.
SUBAQUEOUS	SUBAQ.
SUBDIVISION	SUBD.
TELEPHONE	TEL.
TELEPHONE MANHOLE	TELMH
TELEPHONE PULL BOX	TELPB
TEMPORARY	TEMP.
TEMPORARY BENCH MARK	TBM
TERRACE	TER. or TR
TERRACOTA	TC

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**ABBREVIATIONS AND
ACRONYMS**

GN2e

SHEET 2 OF 2

DESCRIPTION	ABBREVIATIONS / ACRONYMS
TOP OF CURB	TOC
TOP OF PIPE	TOP
TRACT	TRT
TR-FLEX	TR-FLEX
TYPICAL	TYP.
VERTICAL	VERT.
WATER	W.
WATER MAIN	WM
WATER METER	W/M
WATER SERVICE	W.SERV.
WEST	W.
WEST LINE	W/L
WITH	W/
WITHOUT	W/O
WYE CONNECTION	YC

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**ABBREVIATIONS AND
ACRONYMS**

GN2f

SHEET 2 OF 6

SYMBOLS

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	CB-D CATCH BASIN TYPE "D"		CROSS EXISTING CROSS
	CB-DC CATCH BASIN TYPE "DC"		45 EXISTING 45 DEGREES BEND
	CB-F CATCH BASIN TYPE "F"		90 EXISTING 90 DEGREES
	E-MH ELECTRICAL MANHOLE		FH FIRE HYDRANT
	FD-ARROW FLOW DIRECTION		FMVALBOX FORCE MAIN VALVE BOX
	FH FIRE HYDRANT		GASVAL GAS VALVE
	GUY GUY WIRE AND ANCHOR		PROPGVAL PROPOSED GATE VALVE
	HEDGE HEDGE		PROPTTEE PROPOSED TEE
	LITE1 LIGHT POLE LOW LEVEL		PROP11BEND PROPOSED 11 DEGREES BEND
	LITE2 LIGHT POLE, MAST ARM		PROPCROSS PROPOSED CROSS
	LPLOW EXISTING LIGHT POLE LOW LEVEL		PROPREDCR PROPOSED REDUCER
	LPMArm EXISTING LIGHT POLE, MAST ARM		PROPBEND45 PROPOSED 45 DEGREES BEND
	NORTH1 NORTH ORIENTATION		REDUCR EXISTING REDUCER
	PALM PALM		TEE EXISTING TEE
	PINE PINE TREE		VAL EXISTING VALVE
	PKGM PARKING METER		WATERVALBOX WATER VALVE BOX
	P-POLE POWER POLE (EXISTING)		WATERMETERBOX WATER METER BOX
	PPROP POWER POLE (PROPOSED)		PROP90BEND PROPOSED 90 DEGREES BEND
	PTPROP POWER & TELEPHONE POLE (PROPOSED)		EXIST_ELEV Denotes existing elevations (to be inserted in layer "ELEV")
	PT-POLE POWER & TELEPHONE POLE (EXIST.)		
	SD-MH STORM DRAINAGE MANHOLE		PROP_ELEV Denotes proposed elevation (to be inserted in layer "ELEV_PRO")
	SS-MH SANITARY SEWER MANHOLE		
	SIGN SIGN		
	SIGC SIGNAL CONTROL PANEL		
	SIGP SIGNAL PEDESTRIAN		
	SIGMA TRAFFIC SIGNAL, MAST ARM		
	T-POLE TELEPHONE POLE (EXISTING)		Existing Storm Sewer Line (Layer ST_SEW_LN)
	T-MH TELEPHONE MANHOLE		Existing Water Line (Layer UW_LN)
	TELPROP TELEPHONE POLE (PROPOSED)		Existing Gas Line (Layer GAS_LN)
	TREE TREE		Existing Electrical Line (ELECT_OH_LN)
	PBOX WIRING PULLBOX		Existing Telephone Line (Layer TEL_OH_LN)
	HANDICAP HANDICAPPED PAVING SIGN		Existing Street Line Light (Layer WW_LN)
	SURVEYARROW ARROW TO INDICATE DISTANCE BETWEEN POINTS		Existing Forcemain Line (Layer FORCEMAIN_LN)
	TRAFFIC TRAFFIC SIGNAL POST		Existing Fence Line (Layer Fence_LN)

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MIAMI BEACH
PUBLIC WORKS DEPARTMENT
1752 CONVENTION CENTER DRIVE, MIAMI BEACH, FL 33139

APPROVED

12/2005

REVISED

12/2005

TITLE

SYMBOLS

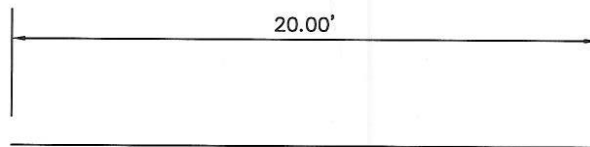
GN3

SHEET 1 OF 1

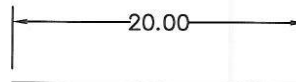
TABLE 4

DIMENSION GUIDE

DIMENSION STYLE:
STANDARD 5
 (VIEW SCALE OF VIEWPORT 1:5)



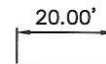
DIMENSION STYLE:
STANDARD 10
 (VIEW SCALE OF VIEWPORT 1:10)



DIMENSION STYLE:
STANDARD 20
 (VIEW SCALE OF VIEWPORT 1:20)



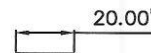
DIMENSION STYLE:
STANDARD 30
 (VIEW SCALE OF VIEWPORT 1:30)



DIMENSION STYLE:
STANDARD 40
 (VIEW SCALE OF VIEWPORT 1:40)



DIMENSION STYLE:
STANDARD 50
 (VIEW SCALE OF VIEWPORT 1:50)



F:\work\1\ALL\CAD-DWG\STANDARDS\INITIAL DRAWINGS

DIMENSION STYLES SETTINGS

STANDARD 5

OVERALL SCALE FACTOR: 5
TEXT STYLE: DIMTEXT
TEXT HEIGHT: 0.09
TEXT COLOR: BYLAYER
DIMENSION LINE COLOR: MAGENTA
EXTENSION LINE COLOR: CYAN
UNIT FORMAT: DECIMAL
MEASUREMENT SCALE FACTOR: 1

STANDARD 10

OVERALL SCALE FACTOR: 10
TEXT STYLE: DIMTEXT
TEXT HEIGHT: 0.09
TEXT COLOR: BYLAYER
DIMENSION LINE COLOR: MAGENTA
EXTENSION LINE COLOR: CYAN
UNIT FORMAT: DECIMAL
MEASUREMENT SCALE FACTOR: 1

STANDARD 20

OVERALL SCALE FACTOR: 20
TEXT STYLE: DIMTEXT
TEXT HEIGHT: 0.09
TEXT COLOR: BYLAYER
DIMENSION LINE COLOR: MAGENTA
EXTENSION LINE COLOR: CYAN
UNIT FORMAT: DECIMAL
MEASUREMENT SCALE FACTOR: 1

STANDARD 30

OVERALL SCALE FACTOR: 30
TEXT STYLE: DIMTEXT
TEXT HEIGHT: 0.09
TEXT COLOR: BYLAYER
DIMENSION LINE COLOR: MAGENTA
EXTENSION LINE COLOR: CYAN
UNIT FORMAT: DECIMAL
MEASUREMENT SCALE FACTOR: 1

STANDARD 40

OVERALL SCALE FACTOR: 40
TEXT STYLE: DIMTEXT
TEXT HEIGHT: 0.09
TEXT COLOR: BYLAYER
DIMENSION LINE COLOR: MAGENTA
EXTENSION LINE COLOR: CYAN
UNIT FORMAT: DECIMAL
MEASUREMENT SCALE FACTOR: 1

STANDARD 50

OVERALL SCALE FACTOR: 50
TEXT STYLE: DIMTEXT
TEXT HEIGHT: 0.09
TEXT COLOR: BYLAYER
DIMENSION LINE COLOR: MAGENTA
EXTENSION LINE COLOR: CYAN
UNIT FORMAT: DECIMAL
MEASUREMENT SCALE FACTOR: 1

NOTE:

NOT ALL VARIABLES OF DIMENSIONS STYLES DESCRIBED ARE NOTED.
REFER TO DIMENSION STYLES IN THE FORMAT PULL-DOWN MENU FOR MORE DETAILS.
IF DIMENSIONS NOT NOTED ARE NEEDED, FOLLOW CRITERIA OF THOSE INDICATED IN THIS PAGE.
THIS GROUP OF DIMENSIONS ARE FOUND IN THE CMB STANDARD TEMPLATE DRAWING.

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TABLE 5

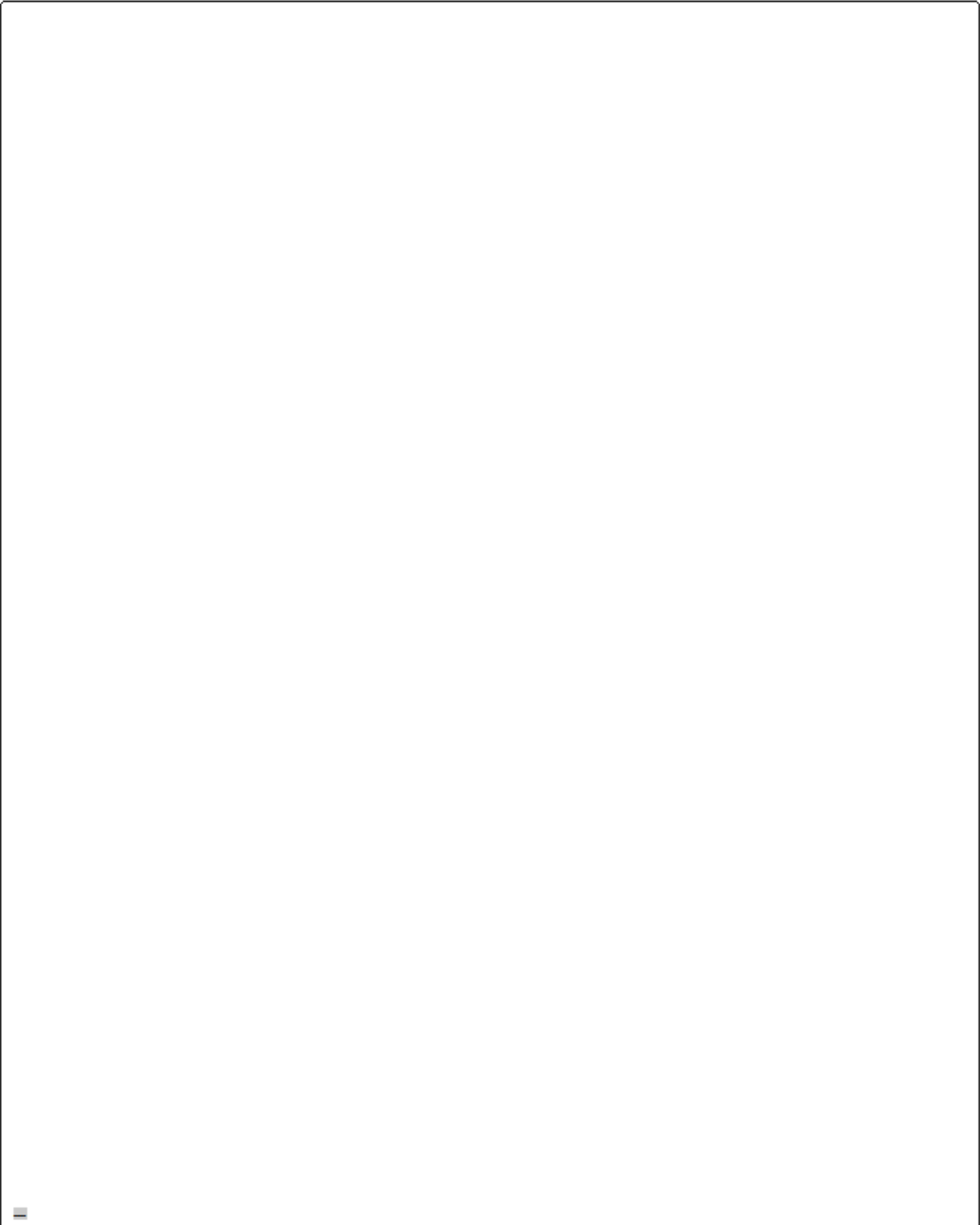
FRAME / LIMITS GUIDE


TABLE 5

FRAME / LIMITS GUIDE	
FILE NAMES	
SHEET SIZE	22" X 34"
VIEW	SCALE
VIEW- 5	1" = 5' - 0"
VIEW- 10	1" = 10' - 0"
VIEW - 20	1" = 20' - 0"
VIEW - 30	1" = 30' - 0"
VIEW - 40	1" = 40' - 0"
VIEW - 50	1" = 50' - 0"
VIEW - 100	1" = 100' - 0"

TABLE 5

FRAME / LIMITS GUIDE	
FILE NAMES	
SHEET SIZE	11" X 17"
VIEW	SCALE
VIEW- 5	1" = 5' - 0"
VIEW- 10	1" = 10' - 0"
VIEW - 20	1" = 20' - 0"
VIEW - 30	1" = 30' - 0"
VIEW - 40	1" = 40' - 0"
VIEW - 50	1" = 50' - 0"
VIEW - 100	1" = 100' - 0"



 MIAMIBEACH PUBLIC WORKS DEPARTMENT	APPROVED _____	REVISED _____ _____ _____	TITLE XXXXXXXXXX	XXX SHEET X OF X
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PUBLIC WORKS DEPARTMENT
NEIGHBORHOOD NUMBER AND NEIGHBORHOOD NAME
PROJECT DESCRIPTION AND LOCATION
XXXXXX XX, 2013 XX-2013X
XXXX% SUBMITTAL



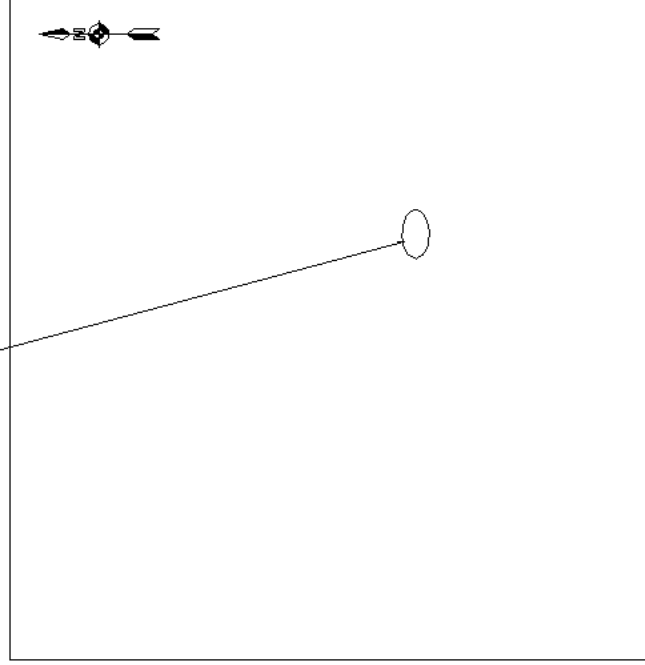
CITY OF MIAMI BEACH

MAYOR: MATTI HERRERA BOWER

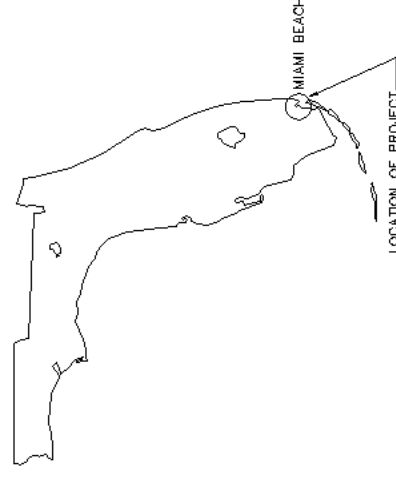
COMMISSIONERS:
JORGE EXPOSITO
MICHAEL GONGORA
JERRY LIBBIN
EDWARD L. TOBIN
DEEDE WEITHORN
JONAH WOLFSON

CITY MANAGER: JIMMY L. MORALES
CITY ATTORNEY: JOSE SMITH
PUBLIC WORKS DIRECTOR: ERIC T. CARPENTER, P.E.
CITY ENGINEER: RICHARD W. SALTRICK, P.E.

CONSULTANTS LOGO
NAME AND ADDRESS



LOCATION MAP




INDEX OF DRAWINGS

SHEET	DRAWING	DESCRIPTION
1	G-01	COVER SHEET & INDEX OF DRAWINGS
2	XX-01	XXXXXXXXXXXXXXXXXXXX
3	XX-02	XXXXXXXXXXXXXXXXXXXX
4	XX-03	XXXXXXXXXXXXXXXXXXXX

TABLE 6

LETTERING GUIDE

	GROUP STYLE	FONT HEIGHT
(VIEW SCALE OF VIEWPORT 1:5)	5SMALL 5MEDIUM 5LARGE	0.50 0.825 1.25
(VIEW SCALE OF VIEWPORT 1:10)	10SMALL 10MEDIUM 10LARGE	1.00 1.65 2.5
(VIEW SCALE OF VIEWPORT 1:20)	20SMALL 20MEDIUM 20LARGE	2.00 3.30 5.00
(VIEW SCALE OF VIEWPORT 1:30)	30SMALL 30MEDIUM 30LARGE	3.00 4.95 7.5
(VIEW SCALE OF VIEWPORT 1:40)	40SMALL 40MEDIUM 40LARGE	4.00 6.60 10.00
(VIEW SCALE OF VIEWPORT 1:50)	50SMALL 50MEDIUM 50LARGE	5.00 8.25 12.50
TEXT USED FOR PAPERSPACE ONLY	PSSMALL PSMEDIUM PSLARGE	0.10 0.165 0.25
TEXT USED IN CUSTOMIZED LINETYPES	LINETYPE	0.45
NOTE: FONT STYLE FOR ALL TEXT STYLES IN SIMPLEX.SHX		
F:\WORK\ALL\CAD-DWG\ INITIAL DRAWINGS\ CMB STANDARD DETAILS		
 MIAMI BEACH PUBLIC WORKS DEPARTMENT <small>1700 CONVENTION CENTER DRIVE, MIAMI BEACH, FL 33139</small>	APPROVED 12/2006	<div> <div>REVISED</div> <div> <div>TITLE:</div> <div>Section 1-E Table 6</div> <div>Lettering Guide</div> </div> </div> <div> <div>Sheet</div> <div>1 of 1</div> </div>